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National Association of Purchasing Management

Report On Business®

November 2, 1987
Volume 5, Number 11

Purchasing Index Reaches 61.8%

Production, New Orders Increase 10th Straight Month

Prices Up 14th Straight Month

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

October Report

Stock market gyrations notwithstanding, the economy continued its strong growth trend in October, say the nation's purchasing managers in their latest **Report on Business.** Production rose, but at a somewhat slower pace than in September. New orders increased for the 10th consecutive month and, considering seasonal factors, were exceptionally strong. The speed of vendor deliveries slowed again, reflecting the substantial growth in production and new orders. Employment grew in October for the seventh time in the last eight months. Inventories declined after being flat last month. October marked the 14th consecutive month that more purchasers reported price increases than decreases.

The report was issued today by Robert J. Bretz, C.P.M., chair of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. Said Bretz: "Notwithstanding what happened with the stock market, the economy entered the fourth quarter as it ended the third, with vigorous growth. Virtually all indicators were positive and the strength of new orders definitely suggests continued growth in November."

The **Purchasing Managers' Composite Index** climbed to 61.8% in October, up from 60.7% in September; this is the 15th consecutive month this leading economic indicator has exceeded 50%. At 61.8%, the index is at its highest since December 1983 (69.9%). Noted Bretz, "The Purchasing Index has averaged 57.1% for the first 10 months of 1987. Based on past experience, if this average were to continue for the remainder of 1987, it would be consistent with real GNP growth of 4.0%." A reading above 50% indicates that the economy is generally expanding; below 50%, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

Employment expanded in October for the seventh time in the past eight months. The rate of growth was brisk, marking the third consecutive month in which the rate of growth increased from the previous month. This is especially significant considering a string of 29 consecutive months of employment decline only ended in February 1987.

Employment	% Higher	% Same	% Lower	Net
October	19	69	12	+7
September	19	68	13	+6
August	16	71	13	+3

Buying Policy

Lead times for production materials expanded in October as the number of members reporting lead times of 60 days or more increased to 48%, up from 42% in September. Lead times for capital expenditures lengthened for the second consecutive month as the number of purchasers reporting lead times of six months and longer rose to 55%, up from 52% in September and 50% in August. Lead times for maintenance, repair and operating (MRO) supplies declined as the number of members reporting lead times of 30 days or fewer rose to 87%, up from 82% in September.

Percent Reporting

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
October	18	34	25	14	9
September	17	41	22	13	7
August	14	40	28	13	5
MRO Supplies					
October	42	45	9	3	1
September	42	40	11	5	2
August	41	45	9	5	0
Capital Expenditures					
October	8	7	13	17	55
September	10	8	13	17	52
August	8	7	11	24	50

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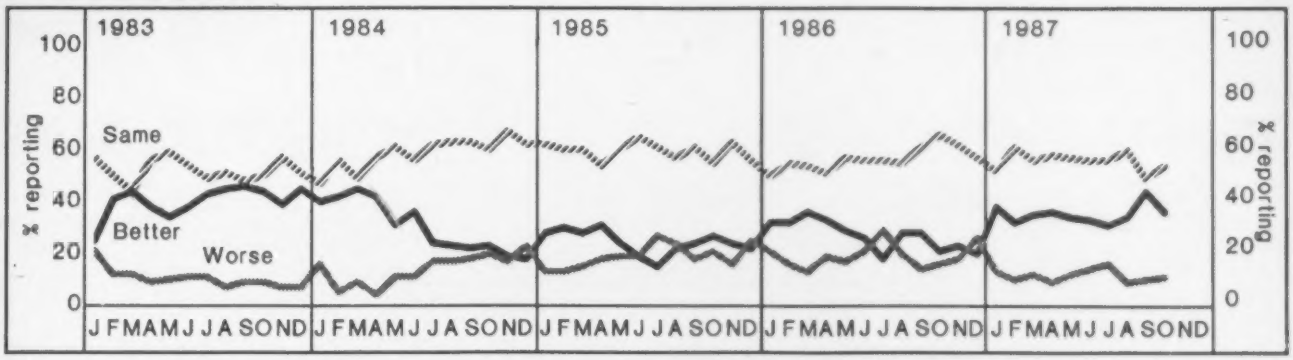
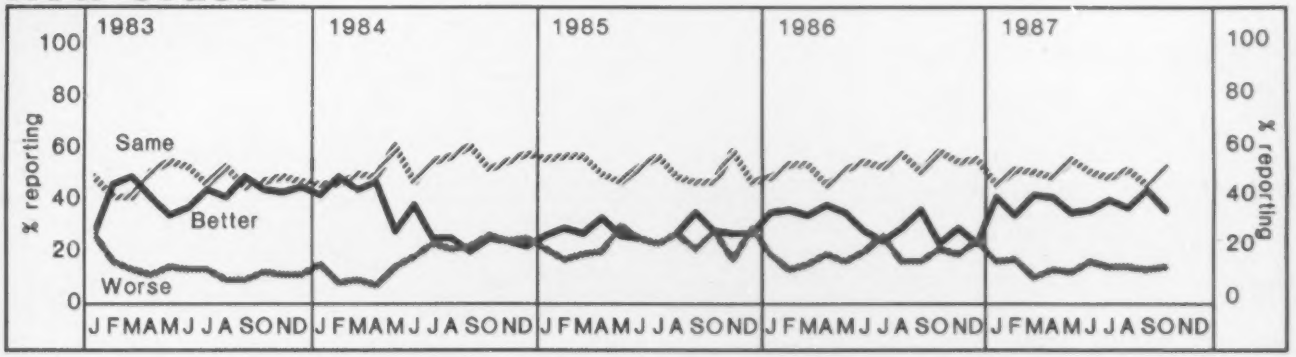
Production



Production expanded in October as expected from the brisk increase of new orders in September. This marks the 10th consecutive month production has grown, although the rate of growth was somewhat slower than last month.

Production	% Better	% Same	% Worse	Net
October	35	55	10	+25
September	43	48	9	+34
August	33	59	8	+25

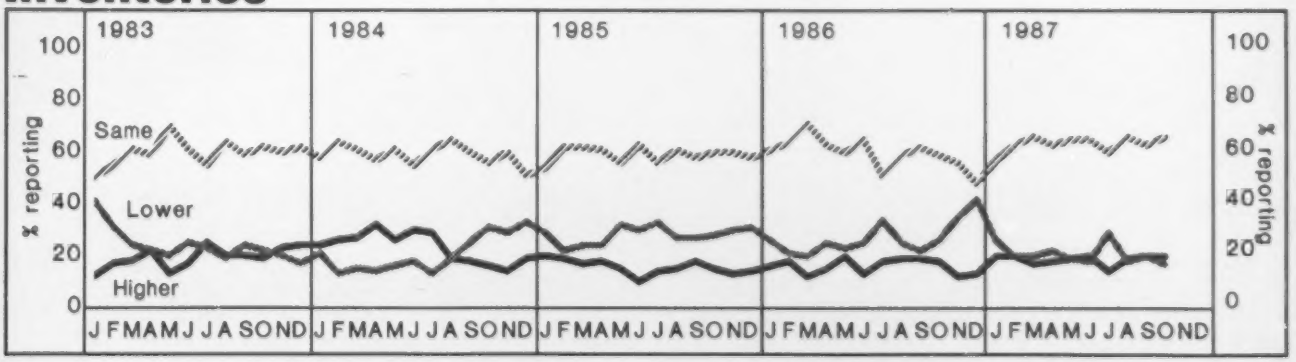
New Orders



New orders expanded in October, marking the 10th consecutive month of growth. Considering normal seasonal slowing, the rate of growth is substantial and is a signal that production will continue to be strong in November.

New Orders	% Better	% Same	% Worse	Net
October	35	52	13	+22
September	43	45	12	+31
August	36	51	13	+23

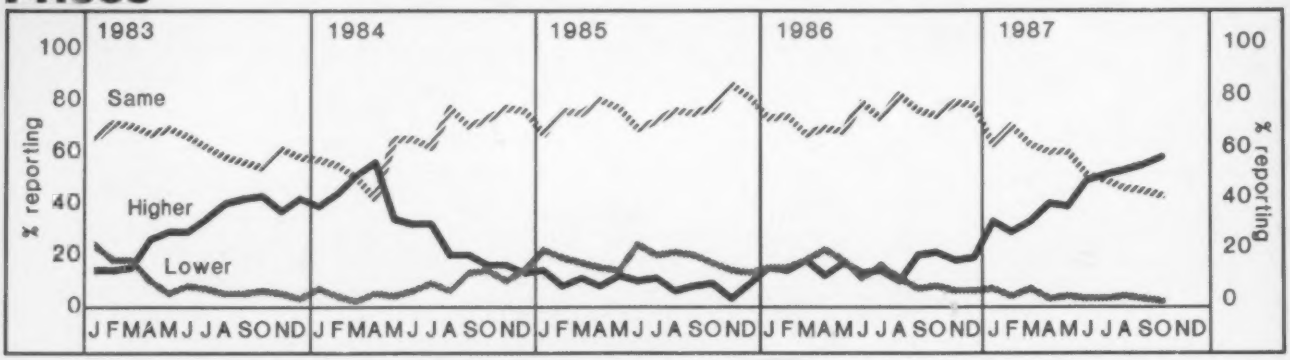
Inventories



Inventories decreased in October, after remaining flat in September. This suggests that the continuing growth in the economy was not aided by a build-up in inventories.

Inventories	% Higher	% Same	% Lower	Net
October	16	65	19	−3
September	19	62	19	0
August	18	65	17	+1

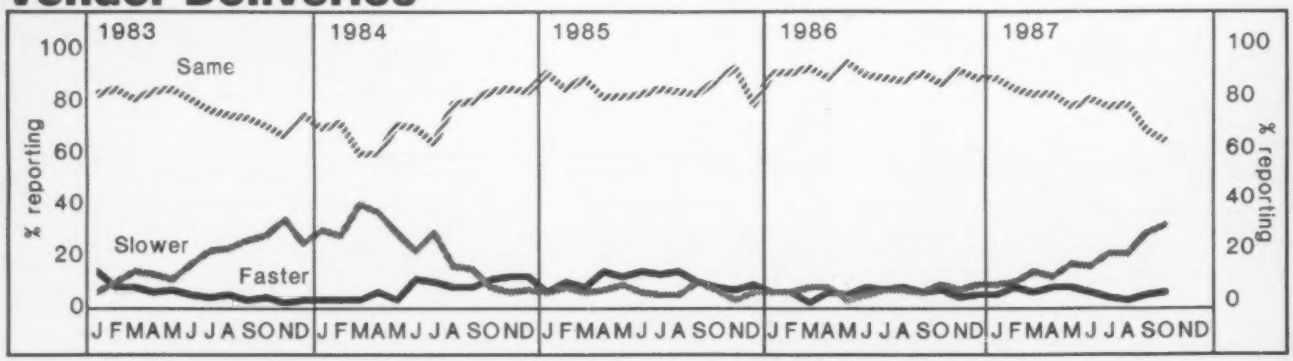
Prices



October marked the 14th consecutive month in which more purchasers reported price increases than decreases. The net difference (+56) between those reporting higher prices (57%) and lower (1%) increased for the fifth consecutive month and is the highest since January 1981 (+59). The price increases were selective and essentially in paper, metal and plastic-related products.

Prices	% Higher	% Same	% Lower	Net
October	57	42	1	+56
September	54	44	2	+52
August	52	45	3	+49

Vendor Deliveries



The speed of vendor deliveries slowed again in October. This marks the 13th consecutive month of slowing for this leading indicator. The 31% reporting slower vendor deliveries is the most since April 1984 (36%). This continued slowing, coupled with the short supply of many metal- and plastic-related commodities, confirms the robust growth in the economy.

Vendor Deliveries	% Faster	% Same	% Slower	Net
October	5	64	31	−26
September	4	68	28	−24
August	2	78	20	−18

Specific Commodity Changes

Paper-related products reported up in price in October were corrugated shipping containers (18th time in 19 months), printing paper (eighth time in last 10 months), paper products (second consecutive month) and kraft linerboard (third time in past four months). Caustic soda was reported up in price for the 11th consecutive month.

Metal commodities reported up in price were steel (13th time in past 14 months), various steel products, aluminum (ninth consecutive month), copper (eighth consecutive month) and nickel (second time in past three months).

Petroleum-derived chemicals and plastic-related items up in price included propylene (third time in past four months), polypropylene resin and plastic resins and products (both for fifth consecutive month). Two items used in textile manufacturing were also reported up in price: cotton and color dyes and concentrates.

Reported as short in supply were aluminum, steel (seventh time in past eight months), steel plate (fourth consecutive month), steel sheets (sixth consecutive month), caustic soda (fifth consecutive month) and titanium dioxide (third consecutive month). For the second consecutive month, no significant items were reported down in price and no petroleum products were reported up in price.

UP IN PRICE: Corrugated shipping containers, kraft linerboard (used in making corrugated shipping containers), printing paper, paper products, caustic soda (used heavily in paper making and petroleum refining), aluminum, copper, nickel, steel (particularly steel bars, castings, plate, pipe and hot- and cold-rolled sheets), plastic resins, polypropylene resins (used in making thermoplastic plastics or fibers) plastic products, propylene (used heavily in making polypropylene), acrylic acid (used heavily in making varnishes and lacquers), cotton, color dyes and concentrates (used in textile production), carbon black (used heavily in making tires and industrial rubber products) and miscellaneous chemicals.

DOWN IN PRICE: None.

IN SHORT SUPPLY: Aluminum (particularly ingot), steel, steel plate, hot- and cold-rolled steel sheets, acrylic acid, styrene (used chiefly in making synthetic rubber, resins and plastics), caustic soda and titanium dioxide (a lead-free pigment used heavily as a whitener in coatings, paper and other industrial applications).

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

Note: The next issue of *Report on Business* will be available Nov. 30, 1987.

Commodity Reports

Packaging and Containers

Prepared by the N.A.P.M. Packaging and Containers Committee. Chair: Carl D. Dirkse, Johnson Wax, Racine, Wisconsin.

The packaging market can be characterized by heavy production and rising prices. Both domestic and export demands remain strong. One member reports: "I have never seen the market like this on my packaging items." Some shortages are appearing.

Metal Cans: Supply is adequate with prices stable to rising. Some overall market share is being lost to plastic but usage for beer, soft drinks and aerosol is increasing. The Can Manufacturers Institute is encouraging more recycling by sponsoring the Great Aluminum Can Roundup in seven test markets.

Fibre Cans: Supply appears to be adequate. Some members report price increases because of linerboard increases.

Glass: Generally, prices are stable and supply is adequate, but there are some scattered reports of supply tightness and price increases. Anchor Glass Containers has acquired Diamond-Bathurst operations. Production in Atlanta is being suspended. On the positive side, 1986 was the first year in this decade that shipments of glass containers increased over the previous year. Shipments were up 5% and are up another 5% so far this year. Growing markets are wine coolers, single-service juices and microwaveable products.

Molded Plastics: Some tightness of supply is being experienced as a result of heavy demand and shortages of certain resins. Price increases have been rampant all year on resins; consequently, molded product prices are increasing. Additional resin capacity will be coming on stream in 1988. New technological developments in barrier resins are being made, and consequently new applications are being found. Test marketing has begun on the first all-plastic hot-fill PET bottles. Test marketing has also begun on seltzer drinks in plastic cans.

Films: Supply is adequate to tight and some members report shortages and long lead times. This heavy demand, coupled with numerous resin increases, is causing prices to continue to escalate.

Laminated Stock: The situation here is similar to films — some tightness of supply with increasing prices.

Metal Drums: After years of overcapacity and falling prices the metal drum market is firming. Supply is still adequate but prices are rising as a result of a better supply/demand ratio and steel price increases.

Fibre Drums: Supply and demand for fibre drums are pretty well in balance. However, prices are rising because of increasing linerboard prices. Some business is being lost to plastic.

Folding Cartons: After years of overcapacity, the folding carton market is strengthening because of increased demand and consolidations in the industry. New uses for microwaveable containers are being found. This strong market is causing significant price increases and lengthening lead times.

Corrugated: Corrugated has been a seller's market in 1986 and 1987. Prices have been rising all through this period and there is speculation about further increases. Year-to-date shipments are running 4.6% ahead of last year. Export demand is strong because of the weak dollar. An International Paper Company report forecasts continued increasing consumption of containerboard, but Wharton Econometrics forecasts a slowdown of demand in the fourth quarter and reduced pressure on prices.

Bags: Bags have the same characteristics as other products made from plastic resins and paper — strong demand and increasing prices. The fight for market share between paper and plastic continues.

Paper Products

Prepared by the N.A.P.M. Paper Committee. Chair: Glenn Farber, C.P.M., Vanier Graphics Corporation, Santee, California.

The general condition of the paper industry can be summed up in a few words: limited additions to capacity, continued increased demand, numerous labor problems and price increases. Paper industry earnings are dramatically improved over 1985 and management seems intent on continuing this trend as long as the strong demand and limited capacity additions continue.

Newsprint: Newsprint is tight and getting tighter. Very limited capacity increases are scheduled this year. A price increase of approximately 7% became effective last July. The preliminary indication is another increase January 1 of approximately the same percentage. Imports of newsprint are up 7% in the first half of 1987. We have heard mixed reactions regarding the status of inventories. Deliveries of this commodity are predictable and can be scheduled far in advance.

Coated Groundwood: An article published in May talked about the groundwood glut caused by the start-up of four new machines in late 1986. The article says there will be an additional 10.2% increase in capacity in 1987 thanks to these machines. It then says the market has been unable to digest this new capacity. Reports from committee members show that this item is virtually on allocation. Further, this tight market is expected to continue through the first quarter of 1988. There likely is some inventory building because of the tight conditions. Further, prices have definitely firmed and likely will remain firm as long as this grade is in short supply.

Uncoated Freesheet: This grade also continues to be in strong demand. Growth of this commodity was 6.8% in 1986. Although the forecast is only for a 3.5% growth this year, freesheet, too, is constantly on the verge of being in short supply. Imports of uncoated free are down about 7% from last year and exports are about 12% ahead, both due to the value of the dollar. This grade has been affected somewhat by labor conditions at several mills and likely will remain tight until late 1988 since no new capacity is scheduled until that time. There have been almost constant price adjustments on various grades within this commodity group. This too will continue into 1988. There was some indication of decline of inventories earlier this year but likely inventories at the consumer level are increasing. Mill inventories are decreasing.

Coated Freesheet: The status of this commodity is almost identical to that of coated groundwood. Capacity is increasing but demand is increasing slightly faster. Shipments in the first seven months 1987 were 10.7% above the previous year. In addition, imports through the first six months were 22% above last year. In spite of all of this, coated freesheet is very tight and some respondents indicate allocations. Price increase expected in October. Inventories are increasing where possible. With 1988 being an election year the demand for this grade will likely continue very strong.

Bleached Bristols: This is probably the only commodity we can report as having good availability. Even though no new capacity is being added, delivery times are normal and labor problems have not affected deliveries. Watch for possible price increase on unbleached kraft in the fourth quarter. Inventories are stable with some decreases noted.

Paperboard/Linerboard: August was the 12th consecutive month in which record corrugated box shipments have been established. Shipments year-to-date are 4.6% ahead of last year. This means production of containerboard continues to rise — in this case, at a level of 7% for the first seven months of 1987. This grade is also very active in the export marketplace, again due to the value of the dollar. Paperboard demand is strong and SBS availability is tightening. Deliveries are out about four to five weeks. Inventories are stable. Some increases have been taken in linerboard; some paperboard also will be increasing. Further increases are expected in 1988 on all grades.

Pulp: Almost all paper and paperboard grades start out with pulp. When the end product is reported to be strong, it logically follows that the raw material must also be doing well. This is precisely the case. The fourth-quarter price increase was just posted. This is now the seventh consecutive quarterly price increase for Northern Bleached Softwood Kraft. Current price is $610 a ton in the U.S., but some expect price increases to continue until it reaches the $700 level. On the bright side, recycled grades are constantly increasing in price, especially the pulp substitute grades. Production is up 8.8% from last year. Shipments are somewhat less than production, which indicates a rebuilding of some of the most depleted inventories. However, inventories only relate to approximately 16 days of supply.

In general, the news about paper is good if you are a seller and bad if you are a buyer. Worldwide, paper and paperboard production increased by 5.1% in 1986 to a high of 203.1 million metric tons.

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National Association of Purchasing Management

Report On Business®

November 30, 1987
Volume 5, Number 12

New orders up; rate slowing

Purchasing Index Slips to 58.9%

Deliveries Slowest Since April 1984

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

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November Report

The economy continued to grow in November, but at a slower pace than reported in October, say the nation's purchasing managers in their latest **Report on Business.** In a special question regarding the estimated impact of the recent decline in the stock market on their company's future business, 53% of purchasers said it was too early to tell, 31% said they expected no change, 10% expect a moderate decline and 6% see a moderate increase.

Production and new orders increased for the 11th consecutive month, but at a slightly slower rate. Vendor deliveries continued to slow, with the difference between those reporting faster and slower deliveries at its greatest since April 1984. Inventories declined for the second consecutive month, probably as a result of slowing deliveries and shortages in metals, plastics and paper products. Employment grew, although the rate of growth was slightly slower than in the past three months. More purchasers reported higher rather than lower prices for the 15th consecutive month, but the increases show signs of plateauing.

The report was issued today by Robert J. Bretz, C.P.M., chair of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. "For the near future at least, the stock market decline has had only a minor impact on the economy," Bretz said. "Virtually all indicators remain positive. Although the growth rate is off slightly from October, the economy continues to grow. This is signaling a strong fourth quarter to end the fifth year of the recovery."

The **Purchasing Managers' Composite Index** slipped to 58.9% in November, down somewhat from 61.8% in October. Nevertheless, it is significant to note that 61.8% was the highest the index has been since December 1983 (69.9%) and that November marks the 16th consecutive month this leading economic indicator has exceeded 50%. Noted Bretz: "The Purchasing Index has averaged 57.3% for the first 11 months of 1987. Based on past experience, if this average were to continue in December, it would be consistent with real GNP growth of 4.0% for 1987." A reading above 50% indicates that the economy is generally expanding; below 50%, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

November marked the eighth time in the last nine months that employment has expanded. Although the pace of growth was not as brisk as in the previous three months, it is still strong, considering normal seasonal slowing.

Employment	% Higher	% Same	% Lower	Net
November	15	72	13	+2
October	19	69	12	+7
September	19	68	13	+6

Buying Policy

Lead times for production materials expanded in November as the number of purchasers reporting lead times of 60 days or more increased to 50%, up from 48% in October. This is the highest since November 1984 (51%) and is a direct reflection of the slowing in vendor deliveries and shortages in numerous commodities. Lead times for capital expenditures shortened slightly after two consecutive months of expansion; the number of members reporting lead times of six months and longer fell to 54%, down from 55% in October. Lead times for maintenance, repair and operating (MRO) supplies lengthened slightly as the number of purchasers indicating lead times of 30 days or fewer decreased to 86%, down from 87% in October.

	Percent Reporting				
Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
November	18	32	25	20	5
October	18	34	25	14	9
September	17	41	22	13	7
MRO Supplies					
November	38	48	10	3	1
October	42	45	9	3	1
September	42	40	11	5	2
Capital Expenditures					
November	11	8	10	17	54
October	8	7	13	17	55
September	10	8	13	17	52

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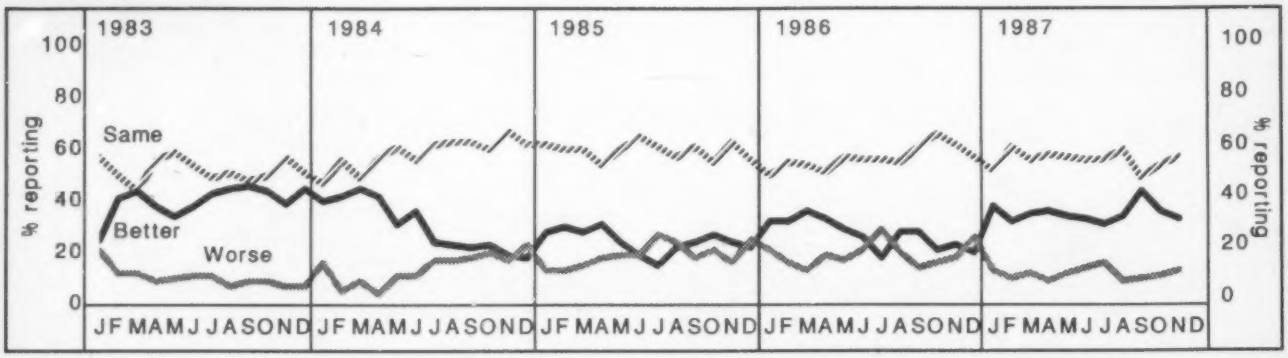
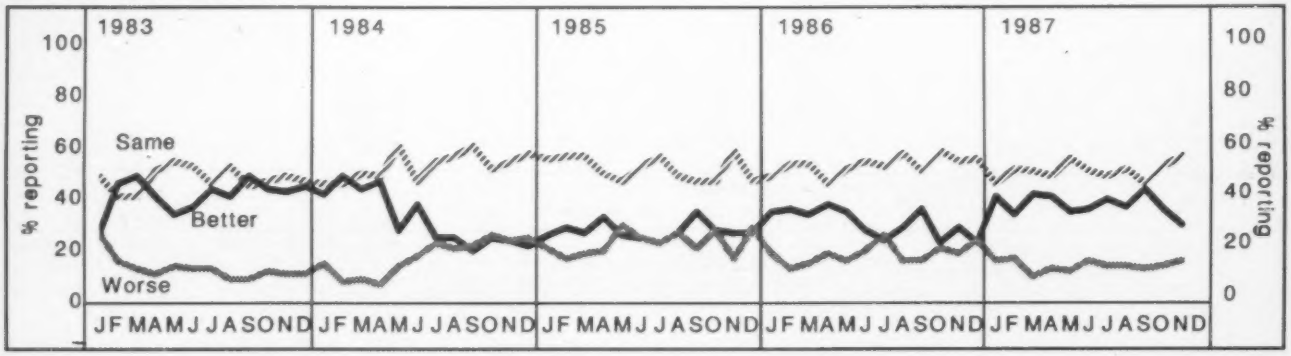
Production



Production expanded in November, as expected from the significant increase in new orders in October. Although the rate of growth is slower than in the past three months, it is still very strong, considering normal seasonal slowing. November is the 11th consecutive month of growth.

Production	% Better	% Same	% Worse	Net
November	32	56	12	+20
October	35	55	10	+25
September	43	48	9	+34

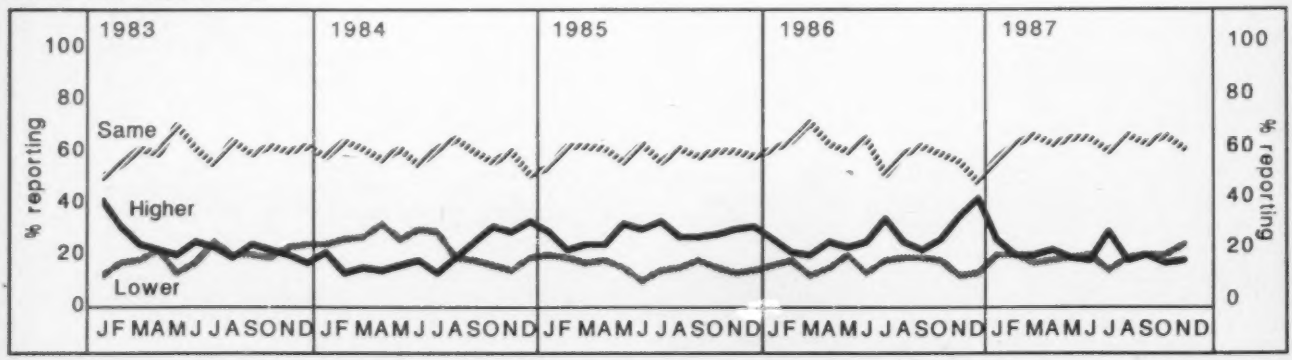
New Orders



November marked the 11th consecutive month of growth in new orders. Considering normal seasonal slowing, the rate of growth continues strong and suggests production will be healthy in December.

New Orders	% Better	% Same	% Worse	Net
November	29	56	15	+14
October	35	52	13	+22
September	43	45	12	+31

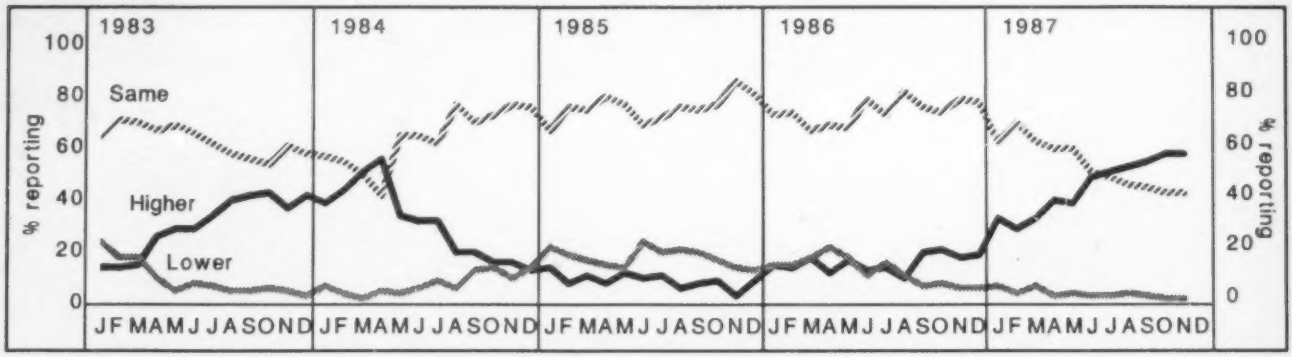
Inventories



Inventories declined in November for the second consecutive month. Even though some members indicated efforts to increase inventories to compensate for slowing vendor deliveries and shortages of certain basic commodities, they have not been able to do so.

Inventories	% Higher	% Same	% Lower	Net
November	17	60	23	−6
October	16	65	19	−3
September	19	62	19	0

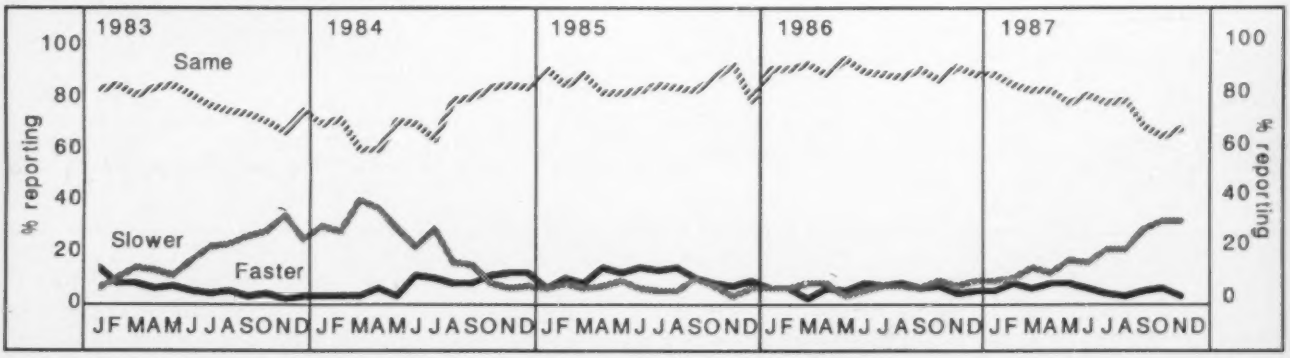
Prices



November was the 15th consecutive month in which more purchasers reported price increases than decreases. The net difference (+56) between those reporting higher prices (57%) and lower (1%) was the same as in October and is the highest since January 1981 (+59). This could suggest a possible plateauing of the rate of growth in price increases. Price increases were again essentially confined to paper, metal and plastic-related products.

Prices	% Higher	% Same	% Lower	Net
November	57	42	1	+56
October	57	42	1	+56
September	54	44	2	+52

Vendor Deliveries



November marks the 14th consecutive month in which more purchasers reported slower rather than faster deliveries. The net difference of −29 between those reporting slower deliveries (31%) and faster (2%) increased for the seventh consecutive month and is the largest since April 1984 (−31). This net difference has been exceeded only three times in more than seven years. This, coupled with the shortages of numerous metal- and plastic-related commodities, is a reflection of the robust economy.

Vendor Deliveries	% Faster	% Same	% Slower	Net
November	2	67	31	−29
October	5	64	31	−26
September	4	68	28	−24

Specific Commodity Changes

Paper-related products higher in price in November were corrugated shipping containers (19th time in 20 months) and printing paper (ninth time in past 11 months). Caustic soda was up in price for the 12th consecutive month. Metal commodities higher in price were steel (14th time in past 15 months), various steel products, steel scrap, aluminum (10th consecutive month), copper (ninth consecutive month) and brass (fourth time in last eight months).

Petroleum-derived chemicals and plastic-related items up in price included propylene (fourth time in last five months), polypropylene (fifth time in past seven months), polyethylene (fifth time in last six months), plastic products (sixth consecutive month) and ethylene (third time in last four months). Natural gas was also higher-priced.

For the third consecutive month, no significant items were reported down in price.

In short supply were aluminum (second consecutive month), steel (eighth time in past nine months), steel plate (fifth consecutive month), steel sheets (seventh consecutive month), steel pipe (second time in last three months), steel scrap, polypropylene, caustic soda (sixth consecutive month), and titanium dioxide (fourth consecutive month).

UP IN PRICE: Corrugated shipping containers, printing paper, caustic soda (used heavily in paper making and petroleum refining), aluminum, brass, copper, steel (particularly steel bars, hot- and cold-rolled sheets, carbon steel and steel scrap), steel products, castings, polypropylene (used in making thermoplastic plastics or fibers), propylene (used heavily in making polypropylene), polyethylene, polystyrene (used chiefly in making synthetic rubber, resins and plastics), plastic products, ethylene (used heavily in making plastic resins), natural gas and miscellaneous chemicals.

DOWN IN PRICE: None.

IN SHORT SUPPLY: Aluminum (particularly ingot), steel, steel plate, steel pipe, hot- and cold-rolled steel sheets and coil, steel scrap, polypropylene, caustic soda and titanium dioxide (a lead-free pigment used heavily as a whitener in coatings, paper and other industrial applications).

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The next issue of *Report on Business* will be available Jan. 4, 1988.

Commodity Reports

Steel

Prepared by the N.A.P.M. Steel Buyer's Group. Chair: Daniel R. Krause, C.P.M., The Budd Company, Troy, Michigan.

As the third quarter drew to a close, conditions in the domestic steel industry continued to baffle the experts. Mills are booked well into the first quarter of 1988 and have been limiting fourth-quarter orders from customers, with some mills actually returning orders that had been booked for several weeks. Shipments seem certain to exceed 73 million tons domestically, up from earlier estimates as low as 65 million tons.

Price increase announcements for all products appear to be sticking. Plate and coil products are seeing base prices and extras increasing simultaneously along with competitive allowance reductions. Many buyers believe the producers are trying to establish price tags at a high level as a pricing strategy, so if the market should turn down, they would have more margin to work with if the discounting of the past years should begin again.

Several reasons are being given for demand being so strong. To mention a few: steel-users' inventories have risen significantly, imports are tracking lower, continued production problems are affecting either hot-metal or finishing operations at most integrated producers, steel consumption is not off as drastically as earlier predicted, and mills are reluctant to bring on previously curtailed production capacity.

Producers are also being more selective on the products they choose to produce; hot rolled grades, which typically sell at low prices, are being replaced in production schedules with value-added, high-strength specialty grades. This is causing serious availability problems in basic carbon steel grades, A36 and rebar. In the plate market, demand remains strong and capacity is limited. Even with the reopening of the Geneva, Utah mill, the available capacity to produce plate still remains at approximately 5 million tons, less than half that of 1981.

Every indication points to a strong demand in the first half of 1988, and buyers should expect continued upward price pressure from the producers. This is, of course, a good news-bad news scenario. The good news is that improved profitability for the mills will make the survival of some of the financially troubled producers more likely. The bad news is that continued high prices for steel could unfavorably affect the economy's low rate of inflation. *(Patrick C. Conroy, Valmont Industries, Valley, Nebraska)*

Energy

Prepared by the N.A.P.M. Energy Committee. Chair: Howard T. Perley, C.P.M., International Paper Company, Memphis, Tennessee.

Natural Gas: Only a few years ago, all gas transported by interstate pipeline companies was owned by them and was sold to local gas utilities. Now, more than half the gas transported belongs to others, including end-users. Many local gas utilities are also buying gas directly from producers — as much as a quarter of their total requirement — and transporting it through interstate pipelines. The pipeline system cannot always cope with these new flow patterns, so end-users are seeing more interruptions as a result of pipeline bottlenecks.

Some turmoil in the gas industry has also been caused by recent changes in federal regulations (FERC Order 500). Not all producers and pipelines are willing to accept the latest transportation requirements. The result has been actual or threatened interruption of some end-user gas transportation. Eventually, competitive forces will likely encourage almost complete acceptance of the federal regulations. *(Ian G. Mackenzie, C.P.M., Corning Glass Works, Corning, New York)*

Electricity: Electric power costs continue to be utility-specific. Costs of fuels for power generation, capital requirements for construction programs, and the need for less or more generation capacity all affect rates and the outlook for cost escalation.

Fuel costs appear stable, even for utilities highly dependent upon oil and natural gas, so utilities that have completed construction programs or depend primarily upon purchased power should have little or no price increases in 1988. Utilities that are bringing new generation capacity on line, however, will be asking for large increases in rates to support the capital invested in these facilities.

Many proposals are being offered to modify traditional investment recovery processes. Industrial users should be alert to these proposals to ensure that they are not being asked to subsidize residential and other customer classes. Also, the new lower income-tax rates will benefit all electric utility customers. Some utilities are attempting to combine rate increases with the required rate reductions to reduce the visibility of the rate increase.

Energy Technology: Most current activity is directed toward development of practical superconducting materials. Superconductivity is the property of certain materials to lose their resistance to electricity, thereby promising more efficient generation and transmission of electricity. This phenomenon has been observed for some time in the laboratory, but only at extremely low temperatures (below minus 400 degrees Fahrenheit). The challenge to practical application is to develop materials that will exhibit the same properties at higher temperatures. This has recently been achieved in certain ceramic materials. Despite these major breakthroughs in the last six months, it will be years before practical applications are a reality. *(T.V. Doyle, C.P.M., Westinghouse Electric Corporation, Pittsburgh, Pennsylvania)*

Petroleum Products: During the past few weeks, distillate fuel oil prices have increased as a result of low inventories and higher agricultural demand. Prices will continue to be strong until the first of the year. Residual fuel oil prices continue to be higher in relationship to crude prices because of market demands, but a mild winter can reduce prices. OPEC will meet in December to discuss new ceiling prices, but most experts believe that its $18-per-barrel price target will hold. *(Gary Chesnut, Ag Processing Inc., Omaha, Nebraska)*

Coal: The coal market remains depressed and price concessions are available as a result of continued oversupply. There has been very little stockpiling in anticipation of a possible UMW strike early next year. Various non-strike local agreements and the increased number of non-union mines have minimized general concern. *(Judith K. Perry, International Paper Company, Memphis, Tennessee)*

1/11/88 AL910-1

National Association of Purchasing Management

Report On Business®

January 4, 1988
Volume 6, Number 1

Price Growth Fastest Since April 1980

Employment Growth Rate Highest Since July 1984

Deliveries Continue Slowing

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

December Report

The economy grew in December at a much brisker pace than in November, say the nation's purchasing managers in their latest **Report on Business.**

The rate of growth in new orders and production was significantly higher, as both registered the 12th consecutive month of expansion. Another month of slowing vendor deliveries also confirmed the robust growth, with numerous shortages in metals and plastics.

Inventories declined at about the same rate as in November. Employment was exceptionally strong, growing for the ninth time in the last 10 months. Purchasers reported more price increases than decreases for the 16th consecutive month.

The report was issued today by Robert J. Bretz, C.P.M., chair of the National Association of Purchasing Management's Business Survey Committee, and director of materials management at Pitney Bowes, Inc. "The economy resumed its vigorous rate of growth in December, absorbing the recent stock market decline with no apparent ill effect," Bretz said. "Virtually all indicators remain positive, with no buildup of inventories. The end-of-the-year position of new orders is the strongest since December 1983 and signals a robust beginning for 1988."

The **Purchasing Managers' Composite Index** recovered almost everything it lost last month, increasing to 61.6% in December, up from 58.9% in November. The 61.6% in December was the second highest in 1987, the highest being October's 61.8%. December was the 17th consecutive month this leading economic indicator exceeded 50%. Noted Bretz: "The Purchasing Index averaged 57.6% for 1987. Based on past experience this is consistent with real GNP growth of about 4.1% for 1987 and fulfills the purchasing managers' forecasts of a better economy in 1987 than in 1986."

A reading above 50% indicates that the economy is generally expanding; below 50%, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

Employment expanded in December, marking the ninth time in the past 10 months that it has grown. The number of members reporting lower employment in December (9%) is the fewest since July 1984 (8%).

Employment	% Higher	% Same	% Lower	Net
December	16	75	9	+7
November	15	72	13	+2
October	19	69	12	+7

Buying Policy

Lead times for production materials continued to lengthen in December, with 26% of members reporting lead times of 90 days or more, up from 25% in November and 18% as recently as August. This is undoubtedly a reflection of the slowing in vendor deliveries and shortages in many commodities. Lead times for capital expenditures were virtually unchanged, with only slight lengthening for commodities with normally short lead times.

Lead times for maintenance, repair and operating (MRO) supplies lengthened again as the number of members reporting lead times of 30 days or fewer decreased to 83%, down from 86% last month and 87% in October.

	Percent Reporting				
Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
December	14	37	23	19	7
November	18	32	25	20	5
October	18	34	25	14	9
MRO Supplies					
December	33	50	12	3	2
November	38	48	10	3	1
October	42	45	9	3	1
Capital Expenditures					
December	8	8	11	19	54
November	11	8	10	17	54
October	8	7	13	17	55

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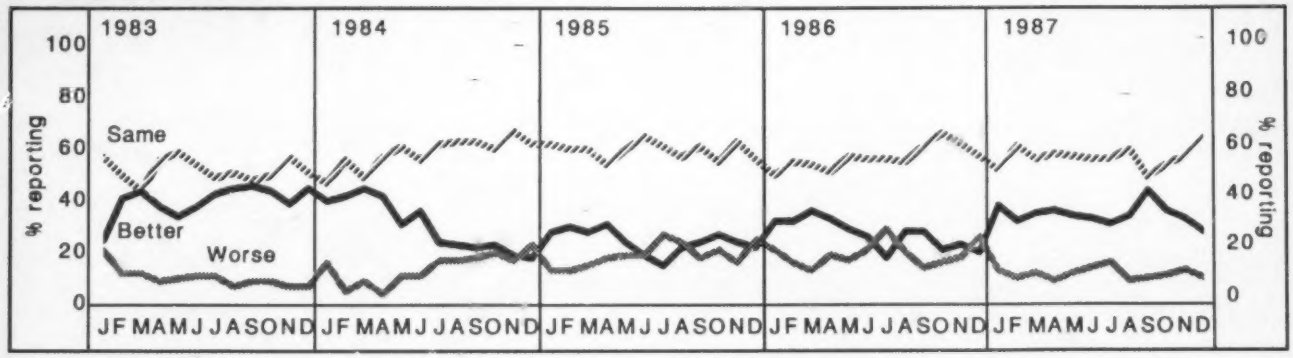
Production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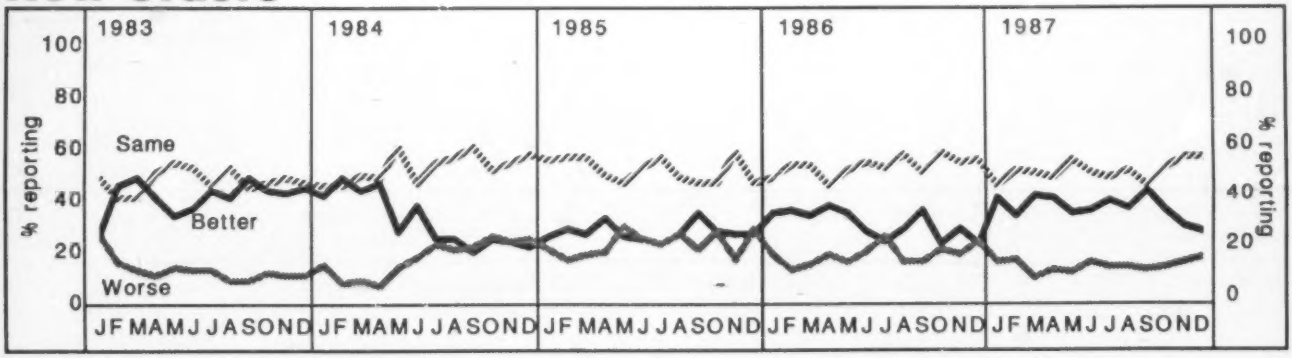
Production expanded again in December, the 12th consecutive month of growth. Considering normally expected seasonal slowing, the growth in production was exceptionally vigorous; this was the strongest December since 1983.

Production	% Better	% Same	% Worse	Net
December	27	64	9	+18
November	32	56	12	+20
October	35	55	10	+25

New Orders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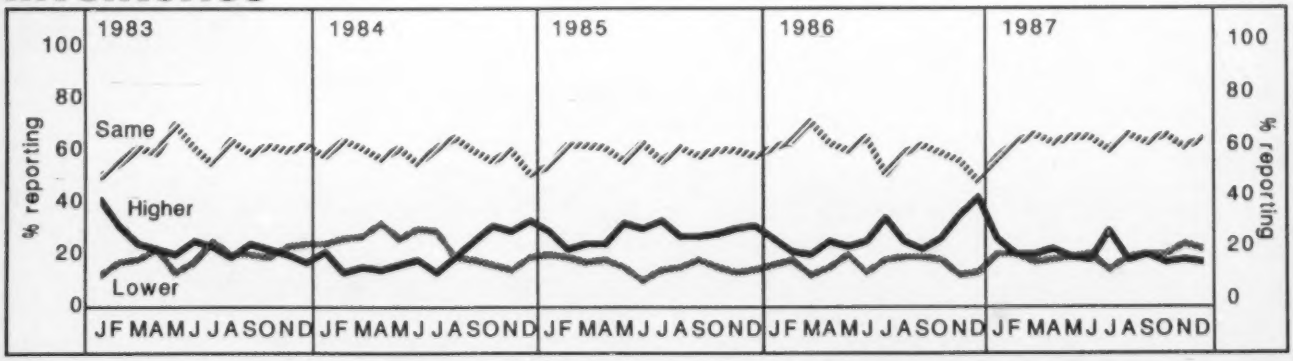
December was the 12th consecutive month of growth in new orders. The rate of growth is significant, considering normal seasonal slowing, and virtually assures vigorous growth in production to begin the new year.

New Orders	% Better	% Same	% Worse	Net
December	27	56	17	+10
November	29	56	15	+14
October	35	52	13	+22

Inventories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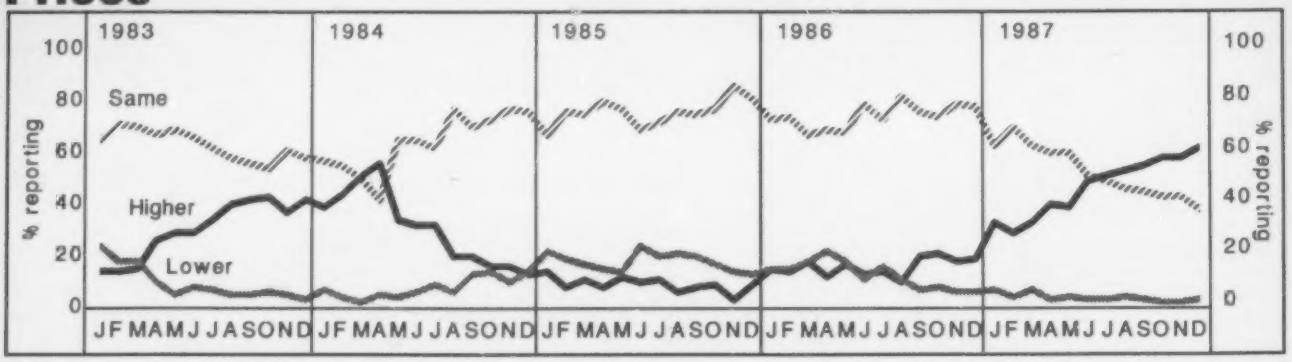
Inventories declined in December for the third consecutive month. This decline occurred in spite of some purchasers' efforts to build inventories of selected items in short supply.

Inventories	% Higher	% Same	% Lower	Net
December	16	63	21	−5
November	17	60	23	−6
October	16	65	19	−3

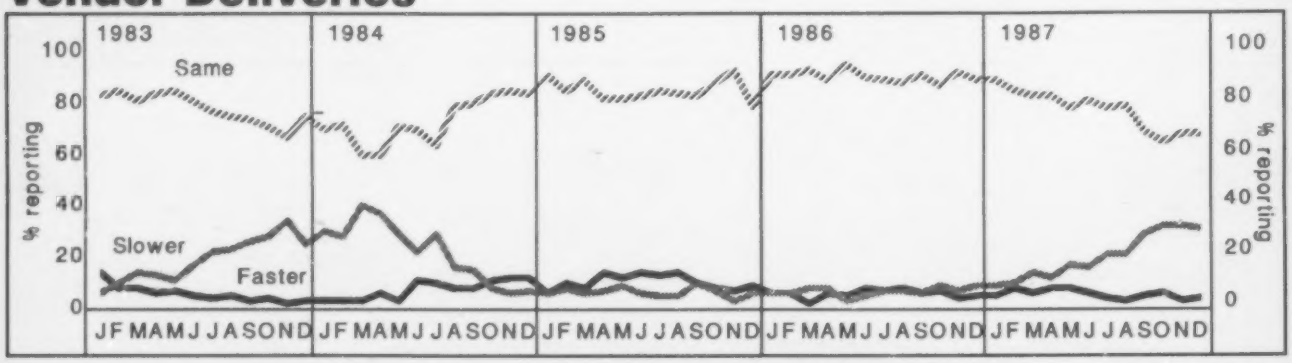
Prices



Prices continued to rise, with December marking the 16th consecutive month in which more purchasers reported price increases than decreases. The net difference (+59) between those reporting higher prices (61%) and lower (2%) was the same as in January 1981 and is the highest since April 1980 (+60). For the first time in four months, a commodity (fuel oil) was lower in price.

Prices	% Higher	% Same	% Lower	Net
December	61	37	2	+59
November	57	42	1	+56
October	57	42	1	+56

Vendor Deliveries



December is the 15th consecutive month in which more purchasing managers reported slower rather than faster deliveries. The net difference (−27) between those reporting slower deliveries (30%) and faster (3%) is the second-highest since April 1984 (−31) and was exceeded only by November 1987 (−29).

Vendor Deliveries	% Faster	% Same	% Slower	Net
December	3	67	30	−27
November	2	67	31	−29
October	5	64	31	−26

Specific Commodity Changes

Paper and related products reported higher in price in December were corrugated shipping containers (20th time in 21 months), printing paper (10th time in 12 months) and packing paper. Caustic soda was reported up in price for the 13th consecutive month.

Metal commodities reported up in price were steel (15th time in 16 months), steel scrap (second consecutive month), various steel products (second consecutive month), aluminum (11th consecutive month), copper (10th consecutive month), various copper products, brass (fifth time in last nine months) and castings (third consecutive month).

Petroleum-derived chemicals and plastic-related items higher in price included polyethylene (sixth time in seven months), ethylene (fourth time in five months), plastic resins (sixth time in seven months) and plastic products (seventh consecutive month). Natural gas was reported up in price for the second consecutive month. Fuel oil was reported lower in price, the first significant item down in price in four months.

Noted in short supply were aluminum (third consecutive month), copper, steel (ninth time in past 10 months), steel sheets (eighth consecutive month), wood pulp, caustic soda (seventh consecutive month), acetic acid, ethylene, polyethylene, plastic resins (second consecutive month), methanol (caused primarily by a plant fire) and titanium dioxide (fifth consecutive month).

UP IN PRICE: Corrugated shipping containers, printing paper, packaging paper, caustic soda (used heavily in paper-making and petroleum refining), aluminum, brass, copper and copper products, steel (particularly steel scrap), steel products, castings, polypropylene, ethylene (used heavily in making plastic resins), plastic resins, plastic products, methanol, natural gas and miscellaneous chemicals.

DOWN IN PRICE: Fuel oil.

IN SHORT SUPPLY: Aluminum (particularly ingot), copper, steel, hot- and cold-rolled steel sheets, wood pulp (used to produce paper), caustic soda, acetic acid, ethylene, polyethylene, plastic resins, methanol and titanium dioxide (a lead-free pigment used heavily as a whitener in coatings, paper and other industrial applications).

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

The next issue of *Report on Business* will be available February 1, 1988.

Commodity Reports

Wood Products

Prepared by the N.A.P.M. Wood Products Committee. Chair: Sam Craven, Pope & Talbot, Inc., Portland, Oregon. Contributors: Roy Walters, Henredon Furniture, Morganton, North Carolina; K.A. Dean, Alcoa, Davenport, Iowa.

The wood products business as a whole has had an excellent year. Although mortgage rates have risen during the year, they are still in the affordable range for many people. It is very hard to forecast what they will do in the next six months, but we would guess they may hold steady or inch a little higher.

The falling dollar has made the lumber and chip export business better. However, on the west coast, competition from foreign countries for logs has had a significant effect on the cost of logs.

Look for prices on construction products (i.e., dimension and board lumber) to be a little soft for the next two to three months and then to firm up going into summer.

The furniture market also has had a good year and all expectations are that this should continue for some time. Prices on hardwoods and veneers are firm and may rise more in the next few months.

For the industry as whole, 1987 was an excellent year. Although 1988 may not be as good, it should be a solid year for our industry.

Non-Ferrous Metals

Prepared by the N.A.P.M. Non-Ferrous Metals Committee. Chair: Sharon Sinke, C.P.M., C.L. Frost Company, Grand Rapids, Michigan.

Cadmium: In the third quarter of 1987, domestic production of cadmium metal was down slightly from the second quarter, but up approximately 30% over the third quarter of 1986. Domestic producer prices reached the $2.25-to-$2.30 range.

The slowdown in demand that usually takes place late in the fourth quarter has not set in this year. Supply is tight and prices remain firm, with merchant quotes still in the $3.00-to-$3.15 range and producers at $3.00.

The current cadmium shortage is due to increased demand from Japan for its battery industry; China is also now an importer; the East Europeans are using more; zinc production is down somewhat, so less cadmium is being produced; and some is going back to Europe where producers are supporting higher prices.

Looking at 1988, shortages and higher prices will probably continue at least through the first quarter. Some forecasts are even more bullish, stating that prices will go even higher and shortages will continue through 1988.

In spite of an inordinate number of regulatory actions against cadmium, its use continues to grow and prices remain at high levels, in part due to the growth of the NiCd battery industry. There is also a general reluctance to substitute other materials for cadmium inasmuch as industry recognizes the advantages of cadmium-containing products and continues its use. *(Bill Brandes, Kraft Chemical Company, Melrose Park, Illinois)*

Copper: Continuing strong demand worldwide, as well as in the U.S., and diminishing nearby supply have caused copper prices to increase to their highest level since 1980.

Total exchange stocks (L.M.E. and Comex) have dipped below 100,000 tons, their lowest level since 1974, and intermittent supply problems in Peru, Chile, Canada and elsewhere have contributed to the declining metal stocks and increased prices.

U.S. producers, including Kennecott, and their recent production start-up are sold out for the balance of the year, as are most dealer/merchants. High-grade cathode premiums have tripled, while Comex values have about doubled from January's $0.60/lb. level.

Near-term availability remains tight, and consumption remains strong in the near term. Predictions are for usage levels to begin moderating by mid-year, with annual consumption in 1988 slightly higher than in 1987. However, increased production, principally from U.S. sources, is expected to increase by about 5% or approximately 400,000 metric tons.

Unless the world economy picks up more strongly than is anticipated, pricing moderation is expected to occur in conjunction with increasing availability of copper stocks later in the year.

In the near intermediate term, copper consumers are well advised to secure an assured source of supply, but should be cautious about second-half pricing commitments based on today's levels. *(Frederick C. Burke, Rea Magnet Wire Company, Inc., Fort Wayne, Indiana)*

Lead: The price of lead has remained at $0.42/lb. since July. This strong price has held despite the arrival in this country of 50,000 lbs. of imported lead since August.

This overall strength has occurred because of reduced U.S. production at both primary and secondary smelters. U.S. lead inventory levels have dropped 22,000 tons since January; London Metal Exchange stocks declined 23,000 metric tons over the same period.

North American production has begun to increase, as Cominco has settled a five-month strike; U.S. secondary smelters continue to increase production levels. This increased production, coupled with an expected decrease in demand caused by the seasonality of the battery industry, should cause the price to drop to the $0.33-to-$0.35/lb. range by February. I expect supply and demand to remain in balance, resulting in a stable price. *(Thomas A. Parker, Exide Corporation, Reading, Pennsylvania)*

Zinc: From the producer's viewpoint, the 1987 zinc market has followed the U.S. economy and performed favorably. The major market factors supporting a more balanced market have been a mid-year labor strike followed by a three-month production cutback at Cominco; zinc metal production problems; record consumptions by the steel industry; and unanticipated demand from the Chinese. Annual metal consumption is estimated to be 5 million metric tons, up 2% from 1986. The availability of cheaper metal imported from an oversupplied European market has served to keep prices reasonable, ranging from a low of $0.38/lb. during the first quarter to $0.455/lb. in July before leveling to $0.42/lb. in September.

Because no major producers face labor contract negotiations in 1988, prices should be relatively flat throughout the year. Further, the zinc market stability will likely diminish in 1988 when, as predicted by many economists, general economic conditions slip. Average prices, therefore, should be slightly below 1987 levels. *(Victoria P. Radick, National Steel Corporation, Pittsburgh, Pennsylvania)*

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National Association of Purchasing Management

News Release

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For Release: February 1, 1988

U.S. DEPARTMENT OF COMMERCE MAKES ANNUAL ADJUSTMENTS TO PURCHASING MANAGERS' INDEX

The Department of Commerce recently made its annual adjustment to the seasonalization factors used to calculate the Purchasing Managers' Index. Economists and managers who track the index will note these changes in the January issue of the Report on Business, a monthly publication of the National Association of Purchasing Management.

The Purchasing Managers' Index, based on analysis by the U.S. Department of Commerce, adjusts five components of the National Association of Purchasing Management's business survey--new orders, production, employment, vendor performance, and inventories--for normal seasonal variation, applies various weights to each, and melds them into a single monthly index number. A reading above 50% indicates that the economy is generally expanding; below 50% that the economy is generally declining. It is standard practice to project the seasonal adjustment factors used to calculate the index a year ahead by computer. The Department of Commerce then takes the actual experience for that year and adjusts the factors, impacting not only the prior year but all recent years. The old and new Indexes for 1985 through 1987 are attached, as well as the 1988 projected seasonal factors. The 1988 seasonal factors will be recomputed when the actual data are known, early in 1989.

The U.S. Department of Commerce has updated the seasonal factors used to calculate the Purchasing Managers Index. Last year's experience modified the seasonal factors that had been projected one year ago for 1987, and changed slightly the seasonal factors for earlier years. Previously-published and revised Indexes are listed below, together with projected seasonal factors for 1988.

Month	1985 Old	1985 New	1985 Diff.	1986 Old	1986 New	1986 Diff.	1987 Old	1987 New	1987 Diff.
January	50.6	50.3	-0.3	51.8	51.2	-0.6	55.8	55.0	-0.8
February	49.7	49.9	0.2	50.7	51.0	0.3	51.6	51.9	0.3
March	47.7	47.8	0.1	50.8	51.0	0.2	53.9	54.2	0.3
April	48.0	48.2	0.2	49.3	49.7	0.4	54.2	54.7	0.5
May	47.6	47.1	-0.5	54.1	53.4	-0.7	57.5	56.7	-0.8
June	47.8	47.8	0.0	50.3	50.5	0.2	57.3	57.6	0.3
July	47.8	47.9	0.1	47.8	48.0	0.2	58.2	58.4	0.2
August	47.8	47.7	-0.1	52.8	52.6	-0.2	59.9	59.7	-0.2
September	50.1	49.9	-0.2	52.6	52.4	-0.2	60.7	60.2	-0.5
October	51.1	50.9	-0.2	51.5	51.2	-0.3	61.8	61.3	-0.5
November	51.7	52.0	0.3	50.8	51.2	0.4	58.9	59.5	0.6
December	50.5	50.7	0.2	50.4	50.5	0.1	61.6	61.8	0.2

TO COMPUTE PURCHASING MANAGERS' INDEX

1. *Calculate the unadjusted diffusion index for each component to two decimal places (percent up plus one half of percent same or unchanged). For vendor deliveries (percent slower plus one half of percent same or unchanged).*
2. *Divide each unadjusted diffusion index by its seasonal factor (round to one decimal place).*
3. *Multiply each seasonally adjusted diffusion index by its weight and sum.*

1988 SEASONAL ADJUSTMENT FACTORS FOR N.A.P.M. PURCHASING MANAGERS' INDEX

	New Orders	Production	Employment	Vendor Deliveries	Inventories	Prices
January	1.032	1.051	.985	1.006	1.013	1.036
February	1.075	1.085	.986	1.003	1.087	.995
March	1.080	1.093	1.068	1.049	1.046	1.026
April	1.090	1.081	1.090	1.001	1.049	1.048
May	.976	1.019	1.062	1.020	1.037	.994
June	.973	.975	1.037	.970	.989	.995
July	.958	.893	1.034	.995	.943	.992
August	.969	.962	.986	.972	1.028	.953
September	1.053	1.018	.977	1.009	1.019	.990
October	.934	.970	.969	.998	.962	.997
November	.966	.962	.906	.989	.903	.982
December	.890	.889	.895	.991	.925	.994
WEIGHT	.30	.25	.20	.15	.10	(Not part of index).

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National Association of Purchasing Management

Report On Business®

February 1, 1988
Volume 6, Number 2

Purchasing Index slips to 57.4%

New orders show robust growth

Price increase growth most since April 1980

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

January Report

The economy grew in January, but at a somewhat slower rate than in December, say the nation's purchasing managers in their latest **Report on Business.** In light of normal seasonal factors, production growth was healthy but slower than in December; new orders were particularly strong. Vendor deliveries continued to slow; numerous commodities were in short supply or on allocation. Inventories increased slightly for the first time in five months. Employment grew, but at a slower rate than in the past six months. Prices continued to increase, with 65% of purchasers reporting higher prices and only 1% reporting lower. Of those members whose companies export, 39% said their export orders were better in January; only 3% said they were worse.

The report was issued today by Robert J. Bretz, C.P.M., chair of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. "The economy entered 1988 with a healthy, although slower rate of growth than it ended 1987," Bretz said. "The growth in new orders was the largest in three months and suggests a respectable if not vigorous economy in the first quarter."

The **Purchasing Managers' Index** declined to 57.4% in January, the 18th consecutive month this leading economic indicator has registered over 50%. The number reflects an update by the U.S. Department of Commerce of the seasonal adjustment factors used to calculate the Purchasing Managers' Index. January's index is a decrease from 61.8% in December and 59.5% in November, figures that have also been revised to reflect the updated seasonal adjustment factors. A reading above 50% indicates that the economy is generally expanding; below 50%, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

Employment rose in January, but just barely. Nevertheless, the net difference (+1) between those reporting higher employment (13%) and lower (12%) was enough to make January the 10th month of growth in the past 11.

Employment	% ...gher	% Same	% Lower	Net
January	13	75	12	+1
December	16	75	9	+7
November	15	72	13	+2

Buying Policy

Lead times for production materials were virtually unchanged in January, with 25% of members reporting lead times of 90 days or more, down slightly from 26% in December. This relatively long lead time reflects the continued slowing in vendor deliveries and selected commodity shortages. Lead times for capital expenditures lengthened, with 56% of members reporting lead times of six months or more, up from 54% the past two months and the most since July 1987 (56%). Lead times for maintenance, repair and operating (MRO) supplies were essentially unchanged in January with the percentage reporting buying hand-to-month (36%) only slightly higher than in December (33%) and the second-lowest since May 1985 (35%).

Percent Reporting

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
January	14	38	23	19	2
December	14	37	23	19	7
November	18	32	25	20	5
MRO Supplies					
January	36	48	12	3	1
December	33	50	12	3	2
November	38	48	10	3	1
Capital Expenditures					
January	10	5	16	13	56
December	8	8	11	19	54
November	11	8	10	17	54

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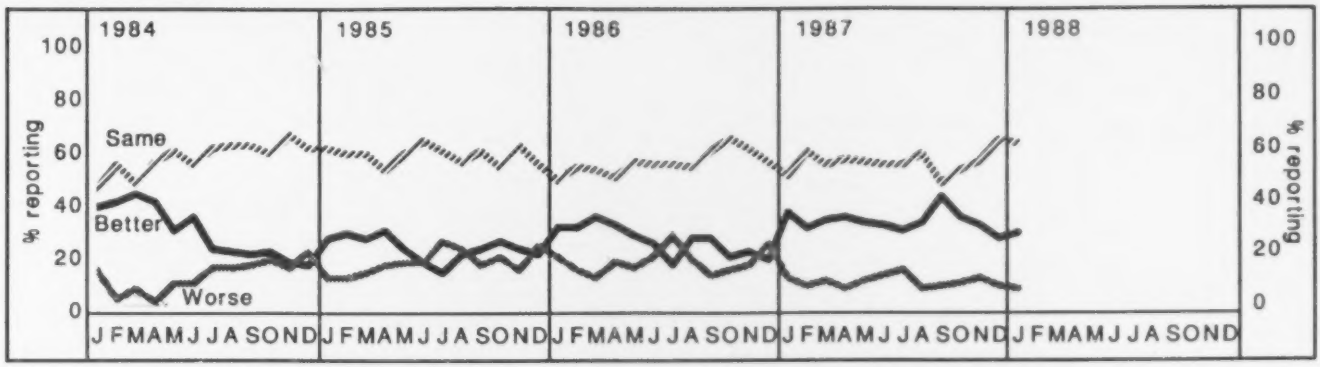
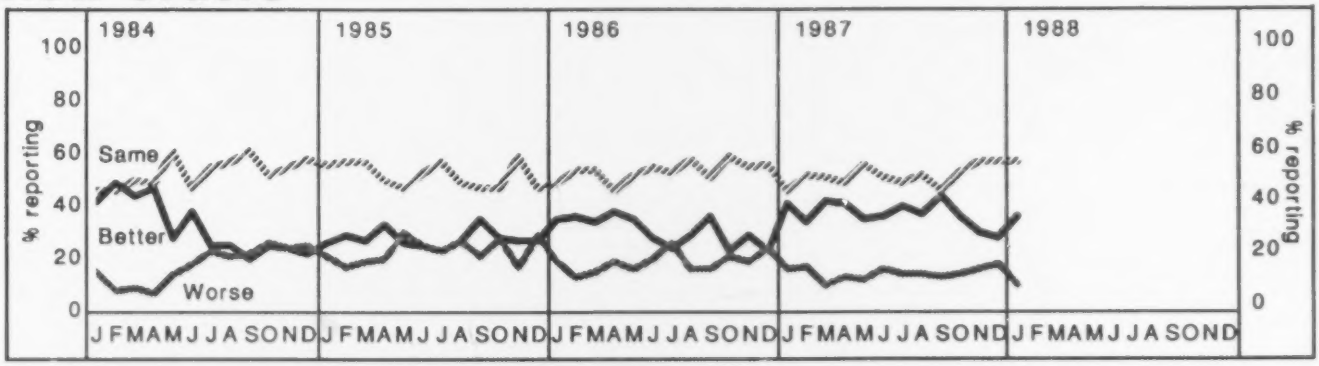
Production



Production expanded in January, registering the 13th consecutive month of growth and paralleling the growth in new orders. Although healthy, the rate of growth in January was not as brisk as in December, considering normal seasonal activity.

Production	% Better	% Same	% Worse	Net
January	29	63	8	+21
December	27	64	9	+18
November	32	56	12	+20

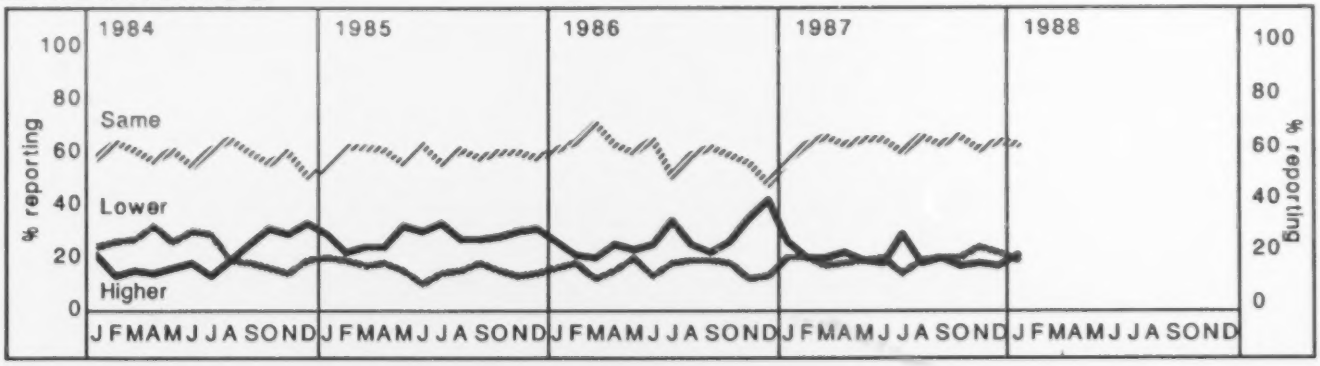
New Orders



January marked the 13th consecutive month of growth in new orders. The difference (+26) between those reporting better new orders (35%) and worse (9%) suggests continued growth in production in the first quarter. Undoubtedly this growth is being fueled to a large degree by robust expansion in exports, which should also help to reduce future trade deficits.

New Orders	% Better	% Same	% Worse	Net
January	35	56	9	+26
December	27	56	17	+10
November	29	56	15	+14

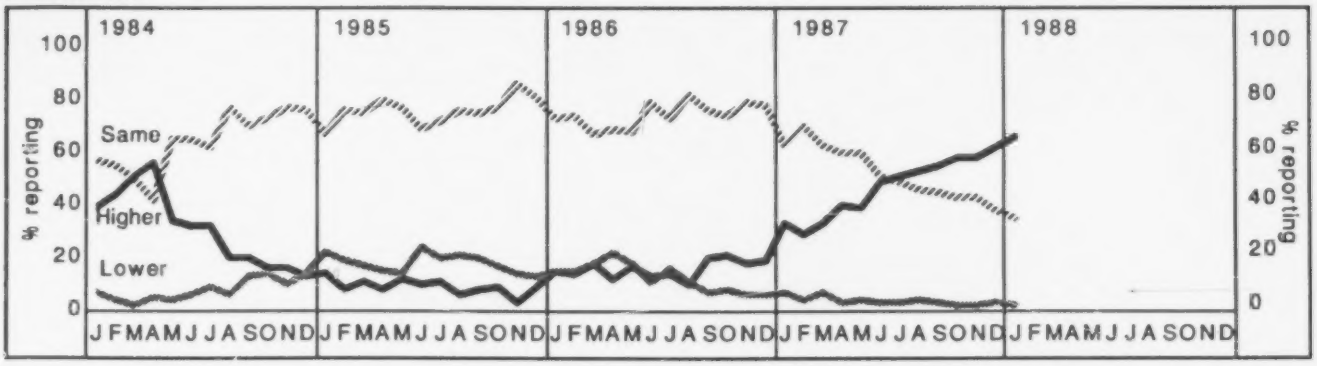
Inventories



Inventories grew in January for the first time in five months. Some of the slight growth in inventories can be attributed to attempts to cope with slower deliveries, shortages of selected commodities and some price hedging.

Inventories	% Higher	% Same	% Lower	Net
January	20	62	18	2
December	16	63	21	−5
November	17	60	23	−6

Prices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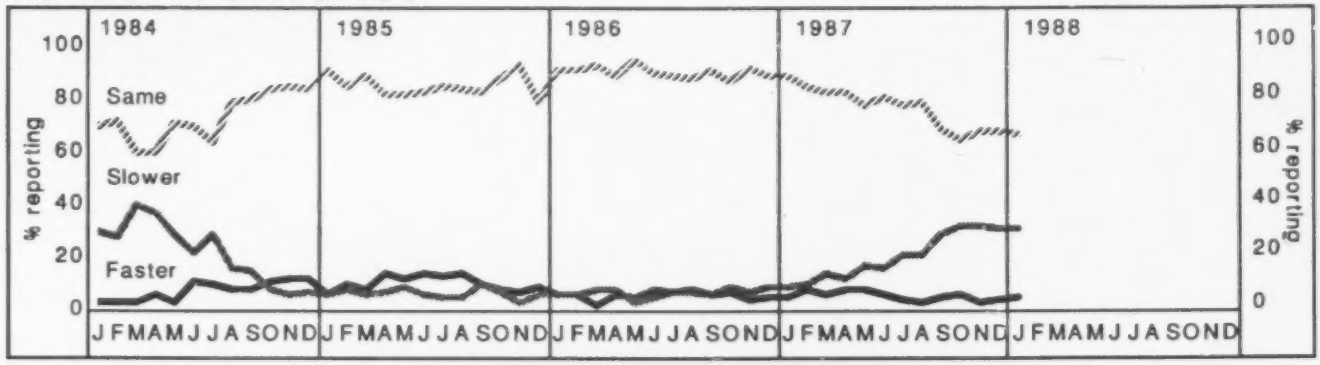
Prices rose in January for the 17th consecutive month. The 65% reporting higher prices is the most since April 1980 (67%), a period marked by rapidly increasing fuel prices. This time, other imports appear to be the main reason for price increases, triggered by the lower value of the dollar.

Prices	% Higher	% Same	% Lower	Net
January	65	34	1	+64
December	61	37	2	+59
November	57	42	1	+56

Vendor Deliveries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For the 16th consecutive month, more purchasers reported slower (30%) rather than faster (4%) deliveries. Delivery delays were compounded by an increasing number of commodities in short supply or on allocation.

Vendor Deliveries	% Faster	% Same	% Slower	Net
January	4	66	30	−26
December	3	67	30	−27
November	2	67	31	−29

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (21st time in 22 months), printing paper (11th time in 13 months), lumber, caustic soda (14th consecutive month; used heavily in paper-making and petroleum refining), rayon, denim, aluminum (12th consecutive month), brass (third consecutive month), brass products, copper (11th consecutive month), copper tubing and products, nickel, steel (16th time in 17 months), steel products (third consecutive month), steel castings (fourth consecutive month), stainless steel, zinc, acetic acid (used heavily in plastic production), polyethylene (seventh time in eight months), ethylene (fifth time in six months; used heavily in making plastic resins), ethylene oxide (used in chemical synthesis, sterilization and fumigation), styrene (used chiefly in making synthetic rubber, resins and plastics), plastic resins (seventh time in eight months), plastic products (eighth consecutive month), methanol (second consecutive month; used heavily as a solvent and in synthesizing other chemicals), miscellaneous chemicals and natural gas (third consecutive month).

DOWN IN PRICE: Fuel oil (second consecutive month), diesel fuel, gasoline, benzene (used as a chemical solvent and in gasoline), soda ash (a dry form of caustic soda), lead and dairy products.

IN SHORT SUPPLY: Aluminum (particularly ingot; fourth consecutive month), copper (second consecutive month), steel (10th time in 11 months), hot- and cold-rolled steel sheets (ninth consecutive month), steel plates, galvanized steel, stainless steel, steel tubing, caustic soda (eighth consecutive month), acetic acid (second consecutive month), ethylene (second consecutive month), polyethylene (second consecutive month), plastic resins (third consecutive month), methanol (second consecutive month, caused primarily by a plant fire) and titanium dioxide (sixth consecutive month; a lead-free pigment used heavily as a whitener in coatings, paper and other industrial applications).

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

The next issue of *Report on Business* will be available March 7, 1988.

Commodity Reports

Paper Products

Prepared by the N.A.P.M. Paper Committee. Chair: Glenn Farber, C.P.M., Vanier Graphics Corporation, Santee, California.

Paper stocks took a sizable beating during the stock market "adjustment" of October 19. Many of the stocks lost upwards of 30% and, in spite of excellent sales and profit increases of up to 64%, stock prices still remain depressed. This could have a significant long-range impact on availability since many of the large companies probably are reluctant to spend hundreds of millions of dollars in expansions during this very uncertain period.

Newsprint: Newsprint producers are all operating between 98% and 100% of capacity. Most newsprint is purchased by contracts; thus, consumers of this product are guaranteed a prearranged supply provided there are no unexpected interruptions in production. No added capacity will start up within the next 12 months and only minimal capacity additions have been announced thus far for 1989 and 1990. Prices just increased 6.6% on the first of the year and there is some talk of perhaps another price increase midyear. Because of the very controlled supply, inventories are likely decreasing.

Uncoated Groundwood: With the acutely tight newsprint market it follows that uncoated groundwood grades are equally tight and also on allocation. The six-month projection is that this condition will remain even though one new piece of capacity is coming on early this year. Deliveries are running four to six weeks. Prices increased January 1 and no one would be surprised by another increase later in the year.

Coated Groundwood: The entire coated marketplace is extremely tight and shipments of both coated groundwood and coated free are 9.5% above 1986 through the first 10 months of 1987. In spite of all of these increases, the market is still very tight and most buyers are on a reservation or allocation system. Mills are not taking any new business and some people feel it will stay tight throughout 1988. Prices increased twice during 1987; likely, there will be continued increases through early 1988. Inventories are declining.

Uncoated Free Sheet: This particular commodity continues to grow with shipments up 4.7% in the first 10 months of 1987. This follows a 5.9% increase in 1985 and a 6.8% increase in 1986. The long-term forecast predicts that this grade will continue its strong growth and that supplies will continue to be tight primarily because of the explosion of office copy machines and computer printers. Imports are down considerably, primarily due to the strength of the dollar. Inventories, especially at the mills, are declining and probably will continue at a minimum level while the strong demand continues. Industry is anxiously waiting for the next added capacity to come on line in Louisiana, hopefully sometime during the summer. Two other additions in late fall or early next year may help take some of the pressure off temporarily. Most buyers of this grade are on allocation or some type of reservation system. Deliveries were somewhat unpredictable but mills have been doing a much better job on balancing demand with output. Deliveries can still be made in four to five weeks, provided the buyer has a reservation or allotment. Prices are increasing and, one respondent says, are "changing weekly." No one would be surprised if an additional increase is attempted by midyear.

Coated Free Sheet: This commodity is in about the same position as uncoated free. Basically most buyers are on some type of reservation or allocation system. Little added capacity is expected in near future. Lead times are running from four to six weeks. Once again, buyers are increasing inventories whenever possible. Agreement is unanimous that there will be additional price increases going into 1988.

Bleached Bristols: This commodity again remains about the only grade that is not on allocation and might even have some mill reps making sales calls. These grades basically are readily available, although not run as frequently as many of the more popular grades. Prices are somewhat stable, with some increases on certain grades. There likely will be some firming and perhaps a general increase in the second quarter.

Pulp: This is becoming almost a steady diet of regular quarterly price increases. It looks likely that there will be an increase in the first quarter of 1988; this will be the eighth consecutive increase. Northern softwood pulp through the fourth quarter of 1987 logged a 44% increase in price. Northern hardwood pulp prices increased 60% in the same period. With these kinds of increases it almost looks like the paper price increases are "reasonable." Pulp supplies are still tight; this is a worldwide commodity affected by all the worldwide economic variables.

It looks like 1987 set another record for production of paper and paperboard, approaching just under 74 million tons. In the first 10 months, paper grew approximately 3.9% overall. Imported paper products grew about 6% from 1986 levels. The U.S. continues to lead the world in per-capita paper consumption, in the 680-lb. range.

Packaging and Containers

Prepared by the N.A.P.M. Packaging and Containers Committee. Chair: Carl D. Dirkse, C.P.M., S. C. Johnson & Son, Inc., Racine, Wisconsin.

Two trends in packaging are on a collision course. More and more packaging is being made from plastic while more and more states are passing or proposing laws that will ban or tax non-recyclable containers. The industry is working on solving this dilemma, which will be the subject of this committee's workshop at the 1988 International Purchasing Conference.

The packaging industry has become a seller's market. It appears that the stock market crash had no effect on the packaging industry. Thirty-three members report tight supply situations; only one member reports a surplus supply situation (metal drums). Seventy-four members report various price increases and nobody reports any price decreases. In fact, more members report price increases than stable prices.

Purchasing personnel are attacking these supply problems in various ways. Some are changing or adding suppliers. Some are redesigning their packaging. Some are using more and more returnable containers.

Metal Cans: Tinplate manufacturers have succeeded in putting through price increases; this is resulting in increased can prices. Two plant closings have been announced, which will help reduce some of the surplus capacity. Supply is still adequate. Reynolds has announced the first resealable aluminum can. It has the advantage of lighter weight, faster and less labor-intensive filling and longer shelf life; the can is totally recyclable.

Fibre Cans: Supply is adequate. Sonoco now supplies about 90% of this market as a result of its recent acquisitions. Some price increases are being reported due to increased costs of paperboard, aluminum and liners.

Glass: Supply and demand are pretty much in balance in this industry. Prices are stable. The Federal Trade Commission voted 3–2 to oppose the acquisition of Brockway by Owens-Illinois. OI is still hoping for a compromise.

Molded Plastics: Every member except one reports higher prices. All resins are increasing in price, particularly HDPE. Several resins are in tight supply and some are on allocation. Supply of molded components is adequate to tight. The Food and Drug Administration has approved the use of acrylonitile/styrene copolymers for beer bottles. Business Communication Co. projects an average growth rate of 5% through 1990 for resin sales to the blow-molded container market, led by PET and PVC.

Films: Prices are increasing due to rapidly increasing resin prices. Some tightness of supply is reported due to tight resin supplies and heavy demand for film.

Laminated Stock: Supply is tight in this market. Lead times are lengthening. Components of laminated stock — plastic resins, foil and paper — are also in tight supply. All these conditions account for the increasing prices.

Metal Drums: This is about the only packaging item with adequate to surplus capacity, despite Rheem's decision to leave the industry. Some members report price increases due to increased steel prices.

Fibre Drums: Supply and demand seem to be pretty much in balance. Some price increases are being reported due to price increases on containerboard.

Folding Cartons: After years in the doldrums, this category has really awakened. Demand is strong and lead times are lengthening. Some shortages are being noted. As a result of this strong demand, prices are increasing.

Corrugated: Both domestic and export demand is very strong. Lead times are lengthening. Price increases continue to be experienced with further price increases being rumored.

Bags: Demand for bags is very strong, and some tightness of supply is being experienced. Prices are increasing due to demand, paper increases and plastic resin increases.

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National Association of Purchasing Management

2055 East Centennial Circle
Post Office Box 22160
Tempe, Arizona 85282-0960
602/752-NAPM (752-6276)

February 1, 1988

Dear Report on Business Reader:

The January Report on Business, distributed February 1, contains an error.

Under Buying Policy, the percentage of respondents claiming lead times of six months or longer for production materials in January was not two percent, as reported. The correct figure is six percent.

NAPM regrets the error.

Sincerely,

Susan M. Fitzgerald
Publications Manager
NATIONAL ASSOCIATION OF PURCHASING MANAGEMENT, INC.

3/8/88 A6710-1

National Association of Purchasing Management

Report On Business®

March 7, 1988
Volume 6, Number 3

Purchasing Index slips to 54.9%

Growth of new orders off

33% say export orders higher

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

February Report

The economy continued to grow in February, but at a slower pace than in January, say the nation's purchasing managers in their latest **Report on Business.** Production growth remained healthy; however, the new order growth rate was decidedly weaker than last month's strong performance. Vendor deliveries continued to slow but were not the problem they had been for the previous five months. Although inventories grew slightly, considering normal seasonal variations, they were actually lower. Employment increased for the seventh consecutive month at a slightly higher rate than in January. Prices continued to increase at about the same pace. Of those members whose companies export, 33% said their export orders were higher in February; only 6% said they were lower.

The report was issued today by Robert J. Bretz, C.P.M., chair of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. Said Bretz: "Although the growth in the economy in February is still healthy, the pace of that growth is unquestionably slower than we experienced in the fourth quarter of 1987. Nevertheless, despite expected production slowdowns in March, the first quarter's economy should still register a respectable increase."

The **Purchasing Managers' Index** slipped to 54.9% in February, down from 57.4% in January. February was the 19th consecutive month this leading indicator has exceeded 50%. These numbers reflect an update by the U.S. Department of Commerce of the seasonal adjustment factors used to calculate the Purchasing Managers' Index. February's 54.9% is the lowest the index has been since April 1987 (54.7%). A reading above 50% indicates that the economy is generally expanding; below 50%, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

Although February was the seventh consecutive month employment grew, the rate of growth in February and January was not as strong as in the fourth quarter of 1987.

Employment	% Higher	% Same	% Lower	Net
February	15	73	12	+3
January	13	75	12	+1
December	16	75	9	+7

Buying Policy

Lead times for production materials lengthened slightly in February, with 49% of members reporting lead times of 30 days or fewer, down from 52% in January. Lead times for capital expenditures shortened somewhat, with 54% of members reporting lead times of six months or more, down from 56% in January, but the same as in December and November 1987. Lead times for maintenance, repair and operating (MRO) supplies were slightly longer in February; 34% of members reported buying hand-to-mouth, down from 36% in January and the second-lowest percentage to so report since November 1984 (29%).

Percent Reporting

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
February	13	36	28	19	4
January	14	38	23	19	6*
December	14	37	23	19	7
MRO Supplies					
February	34	51	12	3	0
January	36	48	12	3	1
December	33	50	12	3	2
Capital Expenditures					
February	10	5	14	17	54
January	10	5	16	13	56
December	8	8	11	19	54

*The January **Report on Business** (Volume 6, Number 2) incorrectly reported that 2% of survey respondents reported lead times of six months or longer for production materials in January. The correct percentage appears here.

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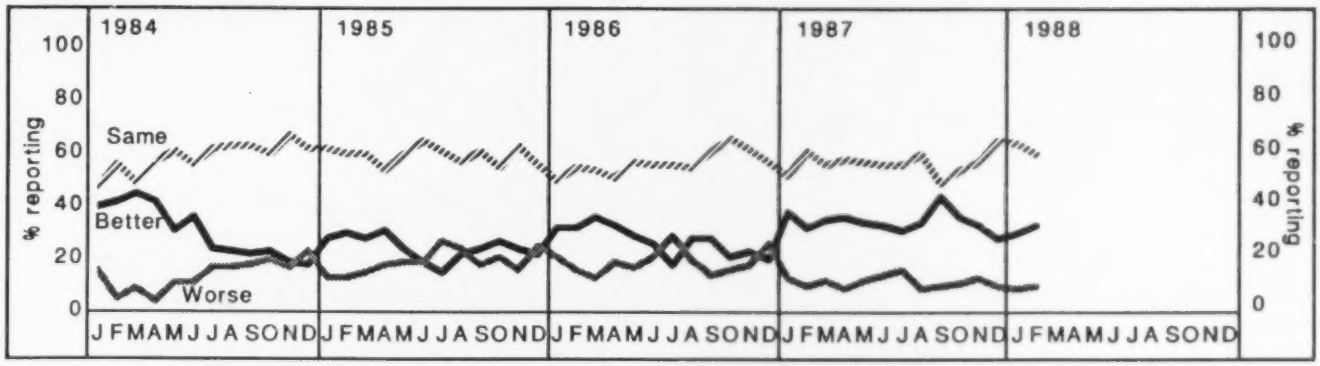
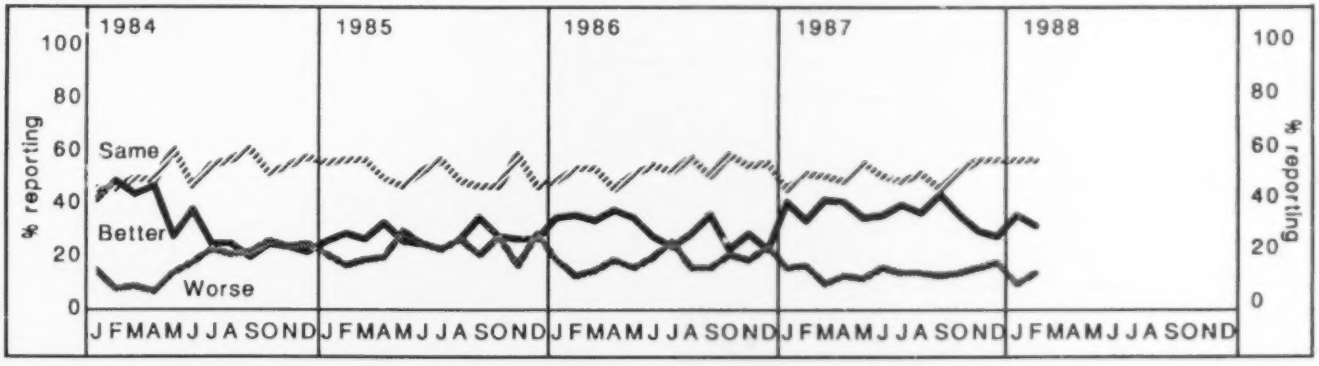
Production



February marked the 14th consecutive month of growth in production. The rate of growth remained strong, even considering normal seasonal factors. Nevertheless, production growth is decidedly slower than it was in the robust fourth quarter of 1987.

Production	% Better	% Same	% Worse	Net
February	32	59	9	+23
January	29	63	8	+21
December	27	64	9	+18

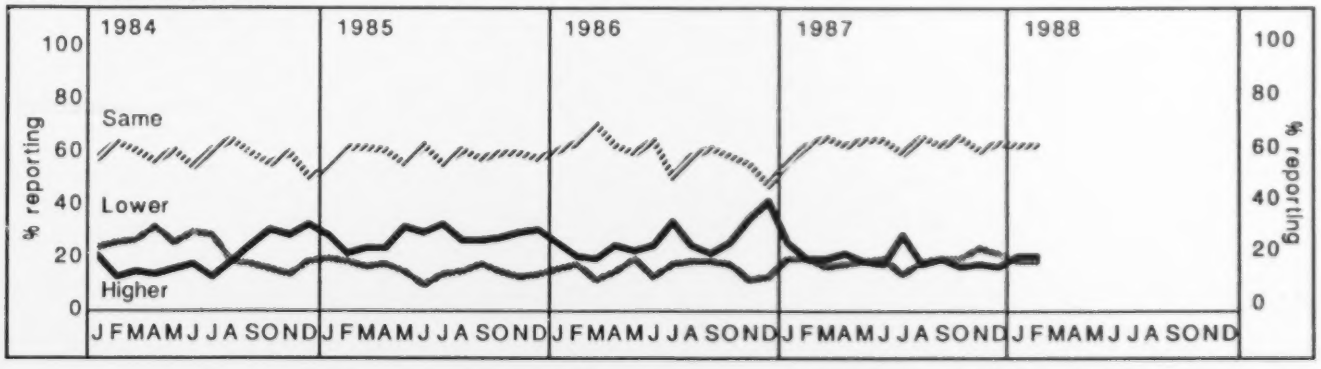
New Orders



February was the 14th consecutive month of growth in new orders. The difference (+ 18) between those reporting better new orders (31%) and worse (13%) is the lowest since February 1987 (17%) and indicates slowing production in March. The fact that 33% of exporting companies reported new export orders were higher than in January indicates that economic growth is still being spurred by vigorous expansion in exports. This in turn should result in lower trade deficits.

New Orders	% Better	% Same	% Worse	Net
February	31	56	13	+18
January	35	56	9	+26
December	27	56	17	+10

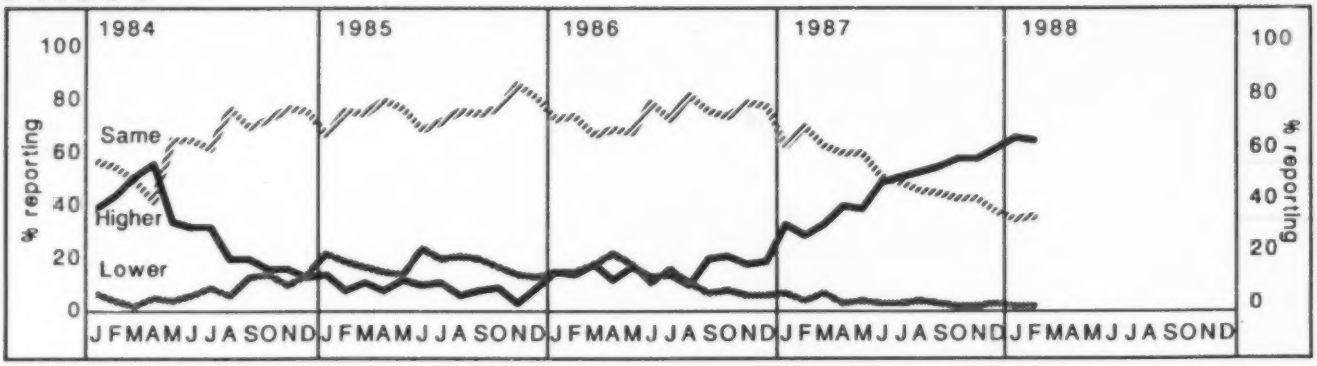
Inventories



For the second consecutive month, more members reported higher inventories (20%) than lower (18%). Because inventories traditionally increase at a greater rate in February, this month's slight increase could be considered a reduction. Attempts to reduce inventories remain the general rule.

Inventories	% Higher	% Same	% Lower	Net
February	20	62	18	+2
January	20	62	18	+2
December	16	63	21	−5

Prices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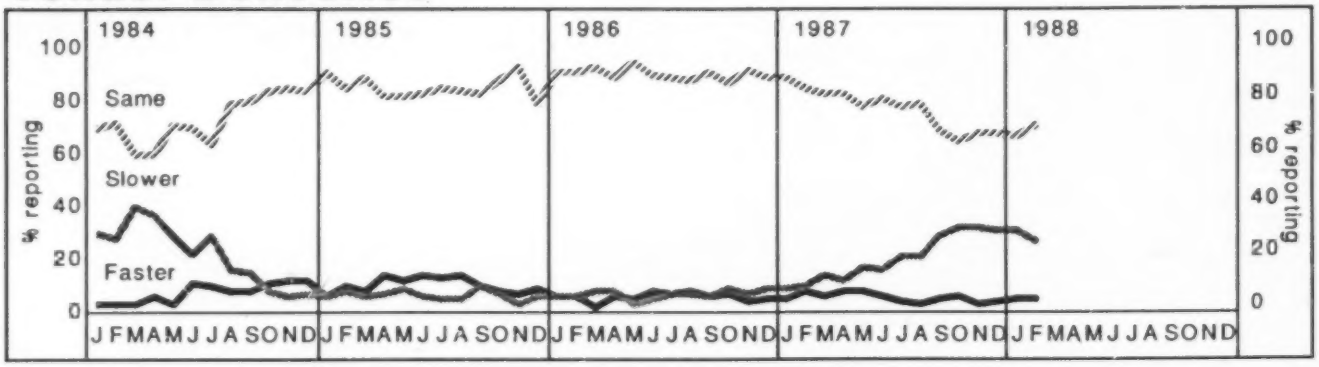
February marked the 18th consecutive month more purchasing managers reported higher prices (64%) than lower (1%). Although this is the most to report higher prices since January 1981 (also 64%), there are subtle signs that increases may be plateauing.

Prices	% Higher	% Same	% Lower	Net
February	64	35	1	+63
January	65	34	1	+64
December	61	37	2	+59

Vendor Deliveries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February was the 17th consecutive month more purchasers reported slower vendor deliveries (26%) rather than faster (4%). Although members continued to be plagued with shortages in certain commodities, it appears these shortages are fewer and the slowing in deliveries is easing.

Vendor Deliveries	% Faster	% Same	% Slower	Net
February	4	70	26	−22
January	4	66	30	−26
December	3	67	30	−27

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (22nd time in 23 months), paper products, printing paper (12th time in 14 months), caustic soda (15th consecutive month; used heavily in paper-making and petroleum refining), rayon (second consecutive month), nylon, aluminum (13th consecutive month), aluminum extrusions, brass (fourth consecutive month), brass products (second consecutive month), steel (17th time in 18 months), steel castings (fifth consecutive month), stainless steel (second consecutive month), zinc (second consecutive month), steel scrap, steel products (fourth consecutive month), acetic acid (second consecutive month; used heavily in plastic production), polyethylene (eighth time in nine months), ethylene and ethylene derivatives (sixth time in seven months; used heavily in making plastic resins), plastic resins (eighth time in nine months), plastic products (ninth time in 10 months), methanol (third consecutive month; used heavily as a solvent and in synthesizing other chemicals), miscellaneous chemicals (fifth consecutive month) and bearings.

DOWN IN PRICE: Fuel oil (third consecutive month), natural gas and corn syrup.

IN SHORT SUPPLY: Aluminum (particularly foil; fifth consecutive month), copper (third consecutive month), steel (11th time in 12 months), hot- and cold-rolled sheets (10th consecutive month), steel plates (seventh time in eight months), stainless steel (second consecutive month), bearings, caustic soda (ninth consecutive month), acetic acid (third consecutive month), ethylene and ethylene derivatives (third consecutive month), plastic resins (fourth consecutive month), phenol (used in making plastic products for housing and auto products), styrene (used chiefly in making synthetic rubber, resins and plastics), methanol (third consecutive month; caused primarily by a plant fire), methyl-ethyl-ketone (a chemical solvent) and titanium dioxide (seventh consecutive month; a lead-free pigment used heavily as a whitener in coatings, paper and other industrial applications).

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

The next issue of *Report on Business* will be available April 4, 1988.

Commodity Reports

Energy

Prepared by the N.A.P.M. Energy Committee: Chair, Howard T. Perley, C.P.M., International Paper Company, Memphis, Tennessee.

Natural Gas: To buy discount-priced gas from sources other than your local gas utility, you have several choices. You can buy directly from a producer, directly from an interstate pipeline company, directly from an independent gas marketer, through a broker, or any combination of the above. Your local gas utility may even have an affiliated marketing company that is willing to sell you gas at a price lower than the utility itself charges. If you decide to buy from a producer, select one close enough to minimize pipeline transportation charges. For a more dependable and steady gas supply, you may do better by signing up with a gas marketer that supplies a number of customers and owns a large pool of gas. Be wary of brokers who do not own any gas, but act only as middlemen. Avoid shopping around month-by-month for the lowest possible prices. You might not be able to get any gas in a month when supplies are tight. Try to negotiate fixed prices for longer periods — say three to 12 months. (*Ian G. Mackenzie, C.P.M., Corning Glass Works, Corning, New York*)

Electricity: During 1988 the Federal Energy Regulatory Commission is expected to issue its rulemakings on competitive bidding for electric generating capacity. The rulemakings will address deregulation in the electricity industry, bulk power markets, transmission pricing and access. All issues, like the deregulation of natural gas, will generate much public comment and could be challenged in court. The issues are complex and testimonies from regulatory commissions, utilities, industrial users, and cogenerators will place the rulemakings into a priority position throughout the year. (*Judith K. Perry, International Paper Company, Memphis, Tennessee*)

Petroleum Products: The OPEC members probably will sell more than their production quotas in 1988 to generate as much revenue as possible because of their budget problems. However, if the Middle East war escalates and the crude oil supply from the Persian Gulf vanishes, increases will be experienced. Residual fuel prices through 1987 were fairly strong, but during the 1987–1988 winter Europe has had mild temperatures. This has caused foreign residual fuel to come into the U.S. to hold prices down although the U.S. is having a harsh winter. Residual fuel prices should be competitive with natural gas through May. (*Gary Chestnut, Ag Processing Inc., Omaha, Nebraska*)

Coal: Although details of the UMWA agreement may not be finalized for some time, the provisions are directed primarily toward job security, which should not affect supply or price to any great extent. The market remains on the buyer's side. However, it is unknown just how many more price concessions can be realistically obtained, so savings should be investigated through transportation reductions as well. (*Judith K. Perry, International Paper Company, Memphis, Tennessee*)

Steel

Prepared for the N.A.P.M. Steel Committee by R. C. Smith, Kelsey-Hayes Company, Romulus, Michigan.

The domestic steel industry seems to be off to a flying start for 1988. Order books are full, production is running around the clock and, most important for the financial health of the industry, prices have increased substantially, which should result in significant profit improvement for 1988.

Of the many reasons that have caused this remarkable turnaround, the most noteworthy are: (1) the devaluation of the dollar; (2) the improved labor contracts that are now in place; and (3) the continued rationalization of obsolete facilities and/or unprofitable operations. In the long run the most significant of these is the continued rationalization of unprofitable operations, coupled, of course, with the continued modernization of currently profitable segments. If the domestic steel industry is to stay profitable over the long haul, it must shed another 18 to 20 million tons of raw steel-making capacity and solidify its position in the markets and products that are the most profitable.

Today's scenario in the domestic marketplace is for a continuing upward trend of prices for the first part of 1988. As in previous tight supply periods, the offshore products are now considerably more expensive than the domestic products. But, for the first time in recent years, we have a leaner, more-modern, world-competitive domestic industry that, if it continues to follow its current course of action, will become the low-cost producer for the world market for some time to come.

Largely due to the continuing strength in the automotive, appliance and construction equipment sectors, the supply of flat rolled products will remain tight through the first quarter. Lead times on all products, however, should remain stable through the first quarter.

Even though the weakening of the value of the dollar, expected strong domestic consumption levels, and voluntary restraint agreements will continue to play their part in the supply/demand picture for steel, the continued optimization of our steel industry is the key to the mills' profitability.

It is, therefore, time to look to the domestic market for long-term price stability. There will, of course, be fluctuations in the marketplace, but it appears that our domestic steel industry is turning the corner and will be leading the competition worldwide in the future.

4/8/88 A 6910-1

National Association of Purchasing Management

Report On Business®

April 4, 1988
Volume 6, Number 4

New orders make brisk rebound

Price increases break trend

Inventories drop sharply

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

March Report

The economy continued to expand in March, although the rate of growth was again somewhat slower than in the previous month, say the nation's purchasing managers in their latest **Report on Business.** Production expanded, but at a slightly slower pace than last month. Even so, the growth rate in new orders increased considerably and suggests a good beginning for the second quarter. Vendor deliveries were slow, but not to the extent of the previous six months, reflecting the slowing production growth rate. Employment changed little from February but, considering normal seasonal variations, actually declined slightly. Inventories declined sharply, reflecting members' persistence in keeping them in line with production requirements. Prices increased, but at a significantly slower rate than in the past five months. Prospects for a reduced trade deficit improved as 41% of those members whose companies export said their export orders were higher in March, up from 33% in February and 39% in January; only 3% said they were lower.

The report was issued today by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. Said Bretz: "The economy completed the first quarter with moderate, if not substantial, growth. The healthy increase in new orders, particularly export orders, along with the anticipated slowing of price increases, signals continued improvement in the economy in the second quarter."

The **Purchasing Managers' Index** fell slightly to 53.3% from 54.9% in February. This is the third consecutive month the index has fallen. Nevertheless, March is the 20th consecutive month this leading indicator has exceeded 50%. The first quarter average is 55.2%. Past experience indicates that, if this average were to continue for the remainder of 1988, it would be consistent with real GNP growth of about 3.4%. Based on analysis by the U.S. Department of Commerce, the Purchasing Managers' Index tracked accurately to real GNP growth in 1986 and to projected real GNP growth of 4.1% in 1987. The index also showed a high correlation to the actual growth of 4.0% reported by the Department in March. A reading above 50% indicates the economy is generally expanding; below 50%, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

March was the eighth consecutive month employment grew. The difference (+5) between those reporting higher employment (16%) and lower (11%) is slightly larger than last month. Considering normal seasonal increases expected in March, however, these results could be viewed as representing a slight decline.

Employment	% Higher	% Same	% Lower	Net
March	16	73	11	+5
February	15	73	12	+3
January	13	75	12	+1

Buying Policy

Lead times for production materials lengthened considerably, reflecting efforts to combat persistent shortages in selected commodities. In March, 29% of purchasing managers reported lead times of 90 days or longer, sharply higher than 23% in February. Lead times for capital expenditures also lengthened, with 57% of members reporting lead times of six months or more, up from 54% in February and the most since February 1987 (also 57%). Lead times for maintenance, repair and operating (MRO) supplies increased; 81% of members reported lead times of 30 days or less, down considerably from 85% in February and the lowest percentage to so report since July 1987 (also 81%).

	Percent Reporting				
Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
March	14	33	24	23	6
February	13	36	28	19	4
January	14	38	23	19	6
MRO Supplies					
March	35	46	15	3	1
February	34	51	12	3	0
January	36	48	12	3	1
Capital Expenditures					
March	9	6	10	18	57
February	10	5	14	17	54
January	10	5	16	13	56

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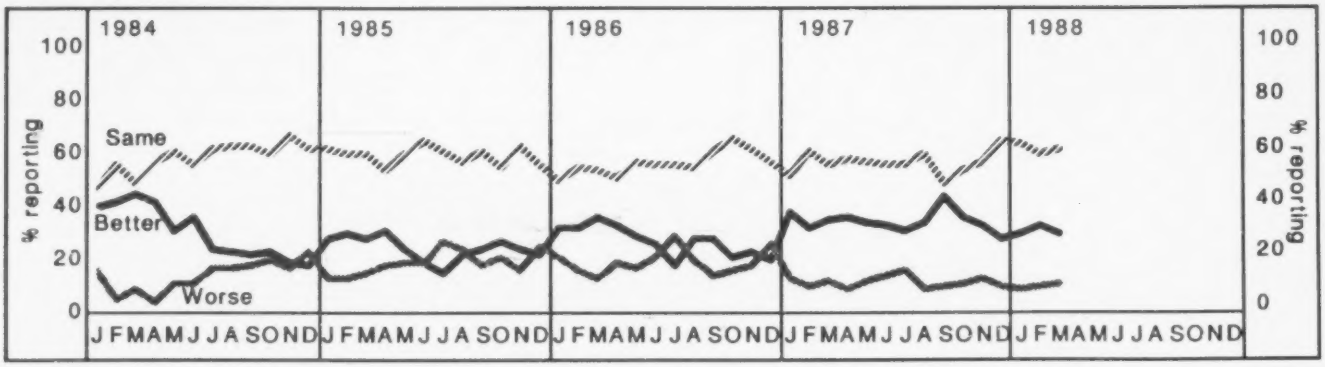
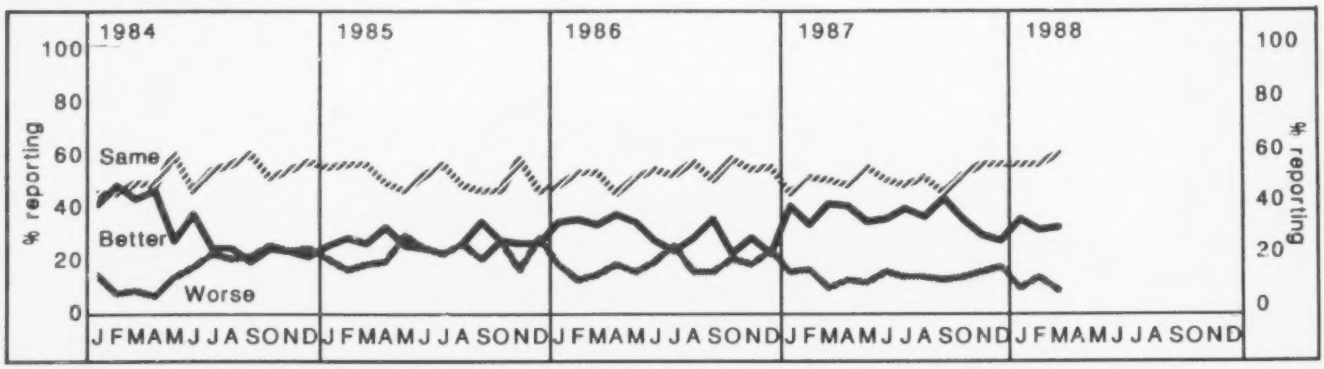
Production



Production expanded for the 15th consecutive month. Although the rate of that growth has slowed over the past six months, it is still very healthy, considering normal seasonal factors.

Production	% Better	% Same	% Worse	Net
March	29	61	10	+19
February	32	59	9	+23
January	29	63	8	+21

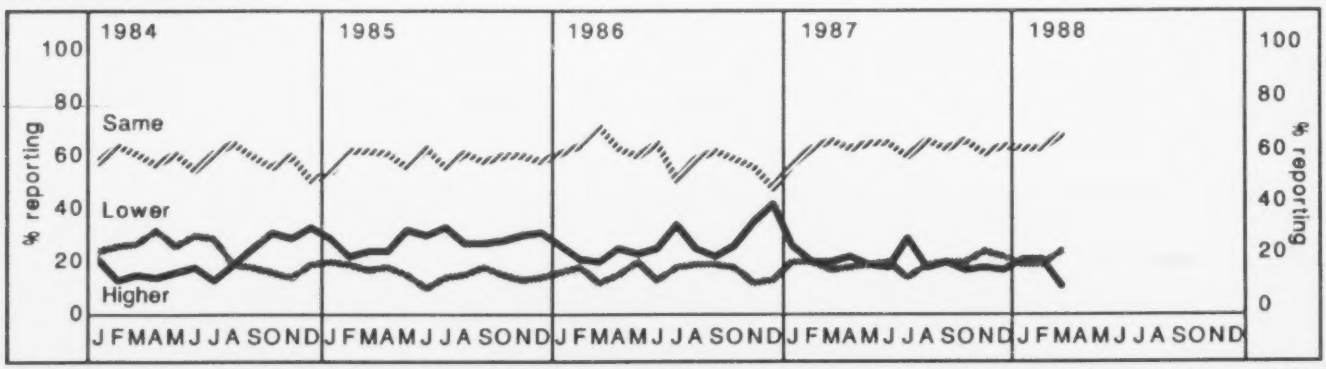
New Orders



March was the 15th consecutive month of growth in new orders. The difference (+24) between those reporting better new orders (32%) and worse (8%) is up sharply from February (+18%). As the lower net difference of February accurately indicated the slowing of production in March, so the significant increase in new orders in March portends a strong rise in production in April. It is apparent from the 41% of exporting companies reporting higher new export orders that exports continue to fuel the economy's expansion while lowering the trade deficit.

New Orders	% Better	% Same	% Worse	Net
March	32	60	8	+24
February	31	56	13	+18
January	35	56	9	+26

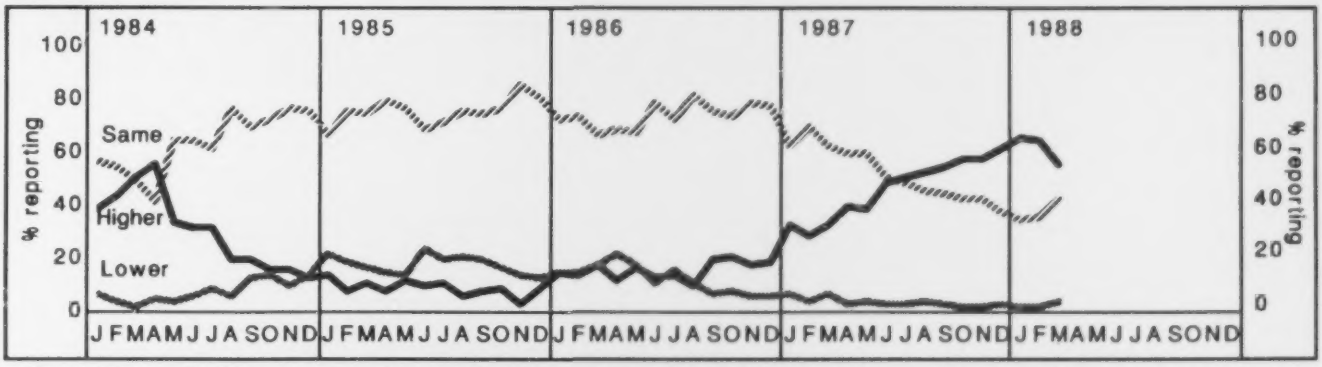
Inventories



Inventories declined sharply in March after growing modestly in the past two months. The difference (−13) between those reporting higher inventories (10%) and lower (23%) is the largest since July 1987 (−15). The 10% reporting higher inventories is the lowest since June 1985. These data should convince skeptics that manufacturers are definitely not building inventories.

Inventories	% Higher	% Same	% Lower	Net
March	10	67	23	−13
February	20	62	18	+ 2
January	20	62	18	+ 2

Prices


1984
1985
1986
1987
1988
100
80
60
40
20
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% reporting
Same
Higher
Lower
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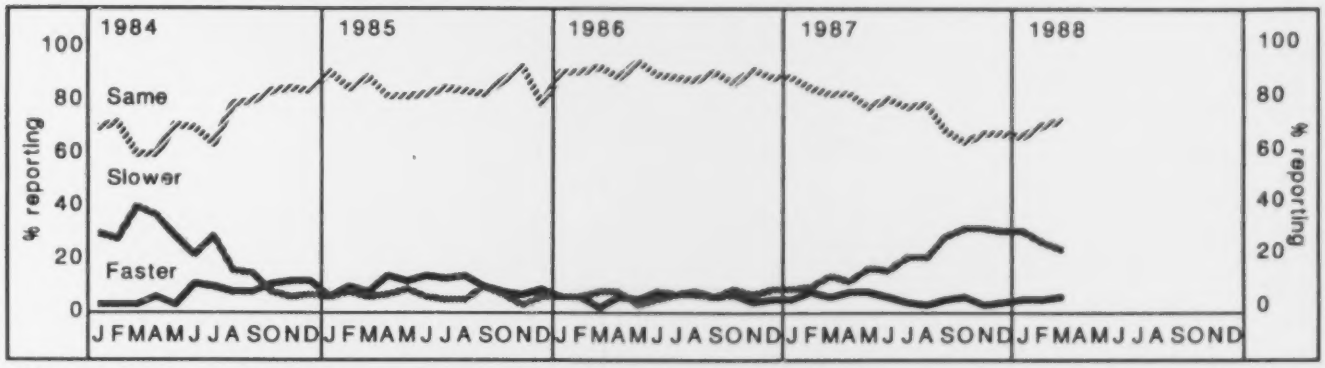
Although March was the 19th consecutive month more purchasing managers reported higher prices than lower, the subtle signs that increases were plateauing, noted in the previous two months, became more obvious. The difference (+52) between those reporting higher prices (55%) and lower (3%), is down significantly from February (+63) and the smallest since September 1987 (also +52). This break is a welcome relief to those who feared the prospects of inflation.

Prices	% Higher	% Same	% Lower	Net
March	55	42	3	+52
February	64	35	1	+63
January	65	34	1	+64

Vendor Deliveries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Slower
Faster
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March was the 18th consecutive month more purchasers reported slower vendor deliveries (23%) than faster (5%). Nevertheless, the easing of the slowing in deliveries noted last month continued in March, a reflection of the slowdown in production.

Vendor Deliveries	% Faster	% Same	% Slower	Net
March	5	72	23	−18
February	4	70	26	−22
January	4	66	30	−26

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (23rd time in 24 months), paper products (second consecutive month), printing paper (13th time in 15 months), folding cartons, kraft paper, linerboard (used in making corrugated shipping containers), caustic soda (16th consecutive month; used heavily in paper-making, petroleum refining and soap-making), aluminum (14th consecutive month), brass (fifth consecutive month), copper (12th time in 13 months; some reports of price decreases), copper products, nickel (used heavily in making stainless steel, plating metals and batteries), steel (18th time in 19 months), stainless steel (third consecutive month), steel castings (sixth consecutive month), steel products (fifth consecutive month), cadmium (used heavily in electroplating and making batteries), polyethylene (ninth time in 10 months; used heavily in making packaging materials and paper coatings), ethylene and ethylene derivatives (seventh time in eight months; used heavily in making plastic resins), methanol (fourth consecutive month; used heavily as a solvent and in synthesizing other chemicals), plastic resins (ninth time in 10 months), plastic products (10th time in 11 months) and miscellaneous chemicals (sixth consecutive month).

DOWN IN PRICE: Fuel oil (fourth consecutive month), diesel fuel, natural gas (second consecutive month) and chlorine.

IN SHORT SUPPLY: Aluminum (sixth consecutive month), copper (fourth consecutive month), nickel, steel (12th time in 13 months), hot- and cold-rolled sheets (11th consecutive month), steel plates (eighth time in nine months), steel bars, steel pipe, steel tubing, stainless steel (third consecutive month), printing paper, caustic soda (10th consecutive month), ethylene oxide (used heavily as a fumigant, in sterilizing instruments and in organic syntheses, especially ethylene glycol), titanium dioxide (eighth consecutive month; a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications), methanol (fourth consecutive month, caused primarily by a plant fire) and DRAMs (electronic memory devices used heavily in computers).

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Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

The next issue of *Report on Business* will be available May 2, 1988.

Commodity Reports

Non-Ferrous Metals

Prepared by the N.A.P.M. Non-Ferrous Metals Committee. Chair: Sharon Sinke, C.P.M., Frost Inc., Grand Rapids, Michigan.

Aluminum: Aluminum prices reached record-high levels on the first of March; they have doubled in the past 18 months. There are conflicting opinions as to whether the price will now remain stable or decrease.

U.S. aluminum primary industries are operating near top capacity, with no new capacity coming on stream in the near future. Demand is expected to remain firm through the second quarter of 1988. Some weakness is expected in new construction, automobiles and appliances, but to offset this, increases are expected in can stock and in foreign aluminum fabricators. The domestic consumption of purchased aluminum scrap reached its lowest level in November. More aluminum scrap was shipped to Japan alone during the first 10 months of 1987 than to all other countries combined. The devaluation of the dollar continues to make aluminum an attractive investment for export.

Although consumers are seeking substitute materials to replace high-priced aluminum, the aluminum industry is not sitting still, but is continuing to promote aluminum for more markets, including automotive applications. Alcoa has been developing an automobile body frame in cooperation with West German Audi. Aluminum cast components include rack-and-pinion power steering pump housings. Cast aluminum wheels, engine blocks and heads are new applications now being promoted. Sheet, extrusions, foil, rod and bar are already being used for various automotive components and new applications for all aluminum products are continually being sought. *(Eleanor Devlin, C.P.M., Reynolds Metals Co., Grand Rapids, Michigan)*

Magnesium: Magnesium shipments for 1987 set an all-time record at 236,000 metric tons. Shipments in the U.S. and Canada showed an increase of 10.4%.

Inventories at year's end were 38,800 metric tons, down 5,700 metric tons from 1986. Pricing is still listed at $1.53/lb. for prime and should continue to hold through the year. Although world demand is increasing for magnesium, the new Norsk Hydro smelter in Quebec is ahead of schedule and should be able to add sufficient tonnage to the world supply to keep up with demand.

Work is still being done on the use of magnesium in engine blocks and transmission housings and, although die casters are very busy, nothing is foreseen in the near future to create enough demand to increase pricing in the next 18 months. All in all, the magnesium market is very stable and will remain so. *(Sharon Sinke, C.P.M., Frost, Inc., Grand Rapids, Michigan)*

Nickel: The price of nickel has accelerated to between $4.58 and $5.21/lb. This is a long way from the "should-be" range of $1.98 to $2.20/lb. In addition, Inco Ltd. of London has just announced a 10% increase in second-quarter prices; current data indicate a trend toward even higher prices.

This market is currently tight, and the demand for stainless steel is very strong. Caution should be exercised in this commodity. *(George R. A. Milne, C.P.M., Delta Faucet Company, Indianapolis, Indiana)*

Tin: During the last six months, tin has been one of the most inactive metals, trading in a narrow range between $3.10 and $3.25. This is expected to be the scenario for the next six months. With the weaker dollar, prices are expected to trend slightly higher, with a ceiling around $3.35. On balance, supplies in New York will be adequate, with possible short-term shortages. *(Anonymous)*

Textiles

Prepared by the N.A.P.M. Textile Committee. Chair: Gerry Korver, C.P.M., K-Products, Inc., Orange City, Iowa. Contributors: Larry N. Parkes, C.P.M., Champion Products, Inc., Rochester, New York; Stanley Albright, C. H. Masland and Sons, Carlisle, Pennsylvania; and Richard Blumenstein, Steelcase, Inc., Grand Rapids, Michigan.

Cotton, Polyester, Greige Goods: Business remains strong, with fleece products continuing to be a very dominant factor. We have concluded the most difficult year in memory from a supply standpoint on yarn. This is now being rectified due to supply catching up with demand and a sloppy general market condition. We have digested substantial price increases affecting yarn for 1988 as a result of supply/demand and raw cotton costs in general.

The strategy most major manufacturers have employed was to commit through the first six to nine months of 1988 based upon the market direction of the third and fourth quarters of 1987. Cotton estimates were off by 1.3 million bales and exports have not been as strong as was originally anticipated. There has been some softening in basic and fashion fleece products, resulting in additional spot availability of yarn. Because of the large number of manufacturers that are contractually committed, no one can effectively take advantage of the current "window of opportunity" and break the market.

Cotton continues to trade within a very narrow range in the low to mid-60s. Some are of the opinion that if the statistical information from the USSR and China is inaccurate, as is suspected, the volume of domestic exportation will increase in response to the favorable dollar exchange. This could increase the cost of cotton by $0.10/lb. or more. Additional cotton will be planted domestically due to the present price structure and a change in the set-aside percentage. This will also have an effect on the speculators when it unfolds.

On February 4, Dupont announced a $0.07/lb. increase in Orlon acrylic effective February 27. They also announced an 8% increase in Antron nylon filament for warp knit application. This was to recover raw material increases they experienced during the past several years. The fiber producers may have drawn the line in the sand and feel they cannot wait any longer. It is suspected that both Monsanto and American Cyanamid will follow.

There have also been recent acetate and rayon increases, averaging 5%. It is no longer a buyer's market and will require close vendor relations and hard bargaining to keep increases below 5% during 1988.

Carpet: The supply of nylon/staple, polypropylene and carpet backing is adequate, with pricing steady. Carpet wool supply is adequate but the pricing is unstable due to currency exchange values. Nylon/filament, acrylic and polyester staple supplies are light, with flexible pricing. Yarn, both space-dyed and spun-dyed, is tight in supply but the pricing is steady.

Specialty Fabric and Converting: Specialty fabrics and converting ended 1987 strong with firm business being carried over into the first quarter of 1988. The price increases that were passed along in late 1987 will remain firm in 1988; however, there should be stable pricing throughout the coming year. The business volume should ease somewhat with specialty fabrics until late spring. Summer's volume should be high; firm up contracts very soon if you want to be assured of meeting your delivery needs for the summer months.

5/10/88 A6910-1

National Association of Purchasing Management

Report On Business®

May 2, 1988
Volume 6, Number 5

Index rises to 54.9%

Production growth up sharply

Price growth surges

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

April Report

The economy began to expand again in April, reversing the trend of the past three months, say the nation's purchasing managers in their latest **Report on Business.** Production expanded at a sharply faster rate. The new-order growth rate expanded at about the same pace as last month, setting the stage for strong production growth in May. Considering seasonal variations, vendor deliveries remained slow, mirroring strong production growth and short supplies of many items. Although employment did not change, taking normal seasonal variation into consideration, it actually decreased slightly. Inventories neither increased nor decreased after registering declines in the previous two months. Prices increased at a sharply faster rate than in March. The growth in new export orders continued to be brisk as 40% of members whose companies export said their export orders were higher in April. This percentage is the same as in March (41%) and is up from February (33%) and January (39%); only 4% said they were lower.

The report was issued today by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. Said Bretz: "The economy began the second quarter with continuing moderate growth, as purchasers had signalled it would, based on last month's strong increase in new orders. New orders remain very healthy, particularly export orders, and almost assure another modest but respectable quarter of economic growth."

The **Purchasing Managers' Index** increased to 54.9%, up from 53.3% in March, and is exactly where it was in February. April is the 21st consecutive month this leading indicator has exceeded 50%. The first four months of 1988 averaged 55.1%. Past experience indicates that, if this average were to continue for the remainder of 1988, it would be consistent with real GNP growth of about 3.4%. A reading above 50 indicates that the economy is generally expanding; below 50, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

April was the ninth consecutive month employment grew. Even so, the difference (+5) between those reporting higher employment (16%) and lower (11%) is the same as last month and, considering normal seasonal increases expected in April, could be viewed as representing a slight decline.

Employment	% Higher	% Same	% Lower	Net
April	16	73	11	+5
March	16	73	11	+5
February	15	73	12	+3

Buying Policy

Lead times for production materials shortened considerably, with 54% of purchasing managers reporting lead times of 30 days or less, up sharply from 47% in March. Lead times for capital expenditures were also shorter with 54% of members reporting lead times of six months or more, down somewhat from 57% in March, which was the most since February 1987 (also 57%). Lead times for maintenance, repair and operating (MRO) supplies were also somewhat less, with 84% of purchasers reporting lead times of 30 days or less, up from 81% in March, which was the lowest percentage to so report since July 1987 (also 81%).

	Percent Reporting				
Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
April	15	39	21	19	6
March	14	33	24	23	6
February	13	36	28	19	4
MRO Supplies					
April	36	48	13	3	0
March	35	46	15	3	1
February	34	51	12	3	0
Capital Expenditures					
April	8	7	16	15	54
March	9	6	10	18	57
February	10	5	14	17	54

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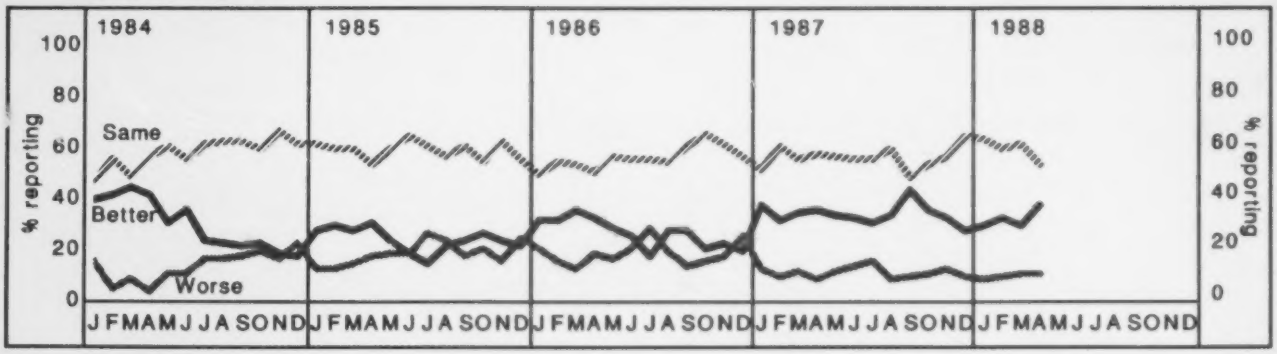
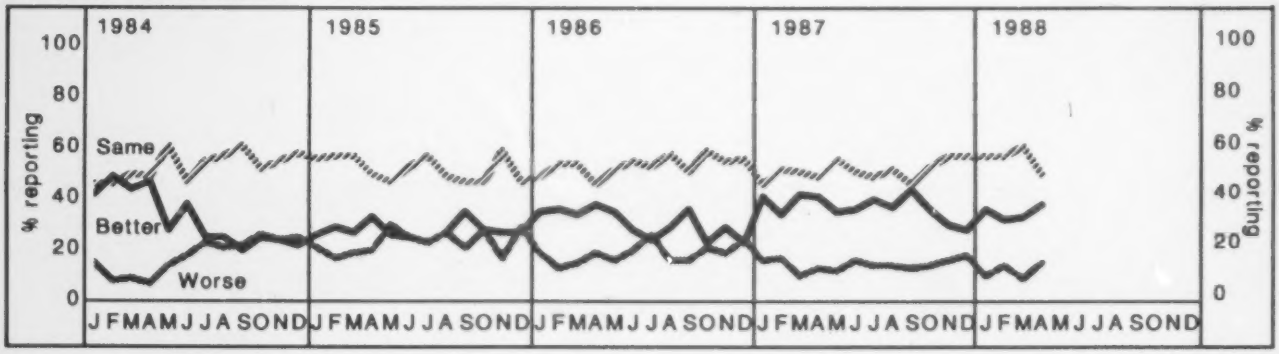
Production



Production expanded for the 16th consecutive month. As expected from last month's significant increase in new orders, the rate of growth in production increased sharply in April. The 37% reporting better production is the most since September 1987 (43%). The healthy growth rate of new orders in April will likely fuel continued production growth in May.

Production	% Better	% Same	% Worse	Net
April	37	53	10	+27
March	29	61	10	+19
February	32	59	9	+23

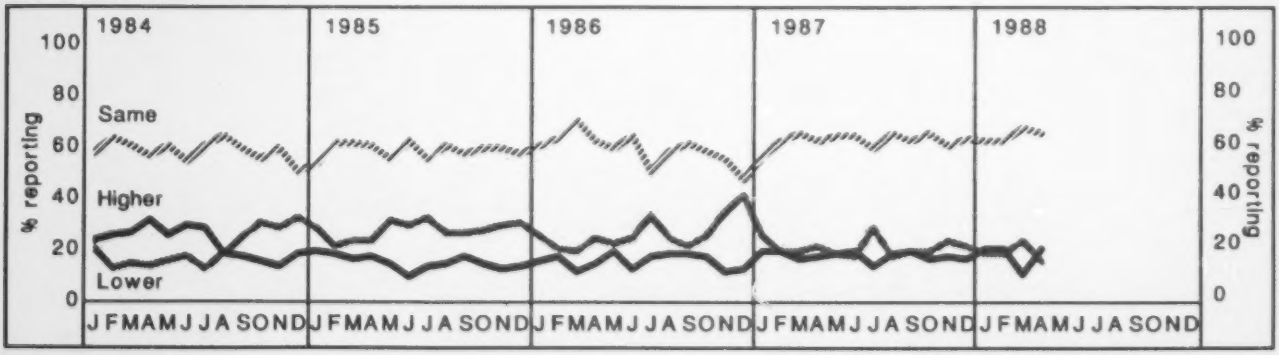
New Orders



April marked the 16th consecutive month of growth in new orders. The number of members reporting better new orders (37%) is the most since September 1987 (43%). Considering normal seasonal variations, the rate of growth is essentially about the same as in March and should all but assure continued growth in production over the next 30 to 60 days.

New Orders	% Better	% Same	% Worse	Net
April	37	49	14	+23
March	32	60	8	+24
February	31	56	13	+18

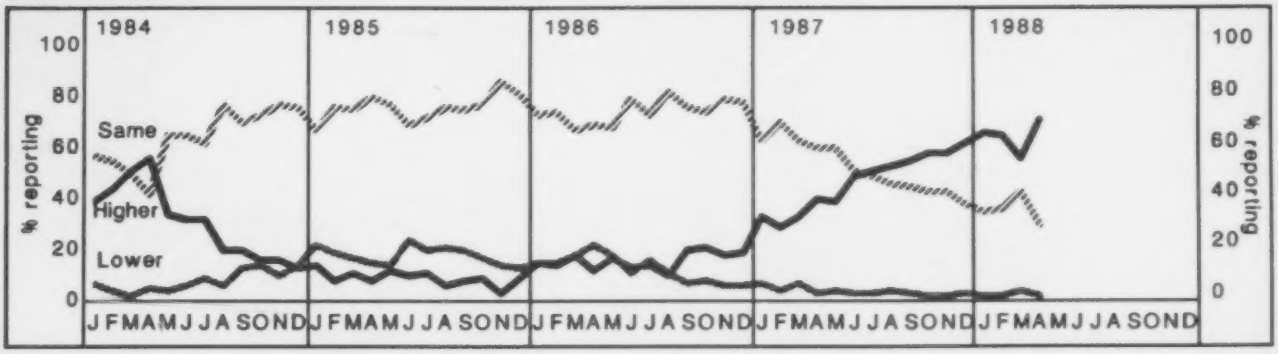
Inventories



After declining sharply last month, inventories neither increased nor decreased in April. Several purchasers selectively increased their inventories to hedge against expected future price increases or protect supplies of certain commodities in short supply.

Inventories	% Higher	% Same	% Lower	Net
April	20	65	15	+ 5
March	10	67	23	−13
February	20	62	18	+ 2

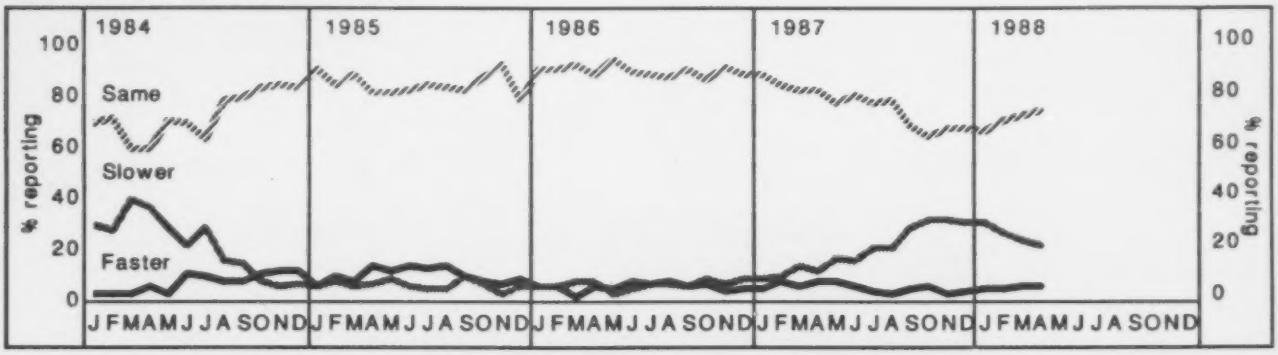
Prices



April was the 19th consecutive month more purchasers reported higher prices than lower. The signs of price plateauing noted in the past three months disappeared in April. The difference (+69) between those reporting higher prices (70%) and lower (1%) is up sharply from March (+52) and is the greatest since March 1980 (+74).

Prices	% Higher	% Same	% Lower	Net
April	70	29	1	+69
March	55	42	3	+52
February	64	35	1	+63

Vendor Deliveries



April marked the 19th consecutive month more purchasers reported slower vendor deliveries. Nevertheless, the easing in the slowing of deliveries reported over the past four months continued in April. The net difference (−16) between those reporting slower deliveries (21%) and faster (5%) is the smallest since June 1987 (−10).

Vendor Deliveries	% Faster	% Same	% Slower	Net
April	5	74	21	−16
March	5	72	23	−18
February	4	70	26	−22

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (24th time in 25 months), folding cartons (second consecutive month), printing paper (14th time in 16 months), paper products (third consecutive month), linerboard (second consecutive month; used in making corrugated shipping containers), solid bleached sulfite paperboard (used in making folding cartons), caustic soda (17th consecutive month; used heavily in paper-making, petroleum refining and soap-making), aluminum (15th consecutive month), brass (sixth consecutive month), copper (13th time in 14 months; some reports of price decreases), nickel (second consecutive month; used heavily in making stainless steel, plating metals and batteries), steel (19th time in 20 months), stainless steel (fourth consecutive month), steel products (sixth consecutive month), hot- and cold-rolled steel sheets, steel bars, steel castings (seventh consecutive month), zinc (third time in four months; used heavily in metal alloys and as a protective coating for metals), polyethylene (10th time in 11 months; used heavily in making packaging materials and paper coatings), plastic resins (10th time in 11 months), styrene (used chiefly in making synthetic rubber, plastic resins and plastic), phenol (used heavily in making phenolic resins), phenolic resin (used in making plastic products), plastic products (11th time in 12 months), ethylene oxide (used in chemical synthesis, sterilization and fumigation), ethylene (eighth time in nine months; used heavily in making ethylene oxide and plastic resins), ethylene derivatives (third consecutive month), formaldehyde (used heavily in making phenolic resins and as a disinfectant, insecticide and fumigant), methanol (fifth consecutive month; used heavily as a solvent and in synthesizing other chemicals, including formaldehyde), alcohol (used heavily in alcoholic beverages and as a chemical solvent), titanium dioxide (a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications), and miscellaneous chemicals (seventh consecutive month).

DOWN IN PRICE: Fuel oil (fifth consecutive month), natural gas (third consecutive month), coal and vegetable oils (used heavily in processed foods).

IN SHORT SUPPLY: Aluminum (seventh consecutive month), copper (fifth consecutive month), nickel (second consecutive month), steel (13th time in 14 months), hot- and cold-rolled steel sheets (12th consecutive month), steel plates (ninth time in 10 months), stainless steel (fourth consecutive month), zinc, magnesium (used heavily in making light metal alloys), printing paper (second consecutive month), caustic soda (11th consecutive month), ethylene oxide (second consecutive month), ethylene, phenol, methanol (fifth consecutive month, caused primarily by a plant fire) methyl ethyl ketone (used heavily as a chemical solvent in surface coatings and in making resins), titanium dioxide (ninth consecutive month) and DRAMs, particularly 256K and 1-megabit dynamic electronic memory devices (second consecutive month; used heavily in computers).

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

The next issue of *Report on Business* will be available June 6, 1988.

Commodity Reports

Paper Products

Prepared by the N.A.P.M. Paper Committee. Chair: Glenn Farber, C.P.M., Vanier Graphics Corporation, Santee, California.

At the recent API Paper Week there was considerable jubilation over the record and profitable 1987 along with the continued strong market in most grades still prevailing today. However, there was somewhat cautious optimism that this strength could continue for the balance of 1988 and almost a unanimous pessimism that 1989 would be a "disaster." Much of the cause for the 1989 "disaster" was based on a predicted recession which we all know has been predicted before and has not always materialized.

The positive side of this user-supported profitability is that the paper industry is expected to spend $11.58 billion in capital improvements in 1988, which is a 24.7% increase over 1987 levels. Only if capacity outpaces consumption, or imports rise dramatically, can we expect relief from the rapidly escalating prices.

Newsprint: Starting in 1989 and 1990, capacity is expected to jump almost 12% in the U.S. The newsprint market still remains tight; expectations are that it will remain this way throughout 1988. Prices increased on January 1 and further increases anticipated this fall.

Uncoated Groundwood: Supply is tight. Mills have announced a second price increase in as many quarters. Lead times are long and no relief is expected until new newsprint machines come on and swing machines re-enter producing this grade. Lead times are 75 days or more with frequent late shipments. There may be a further increase of perhaps $60 per ton in the fall. Mills are already trying to line up 1989 commitments.

Coated Groundwood: The coated groundwood section of the coated paper market is probably the tightest currently and no new capacity is planned until late 1989. There were two price increases in 1987 and at least one is expected in 1988. This grade is currently on allocation with lead times of 30 to 60 days.

Uncoated Free Sheet: Consumption is expected to outpace the increase of the GNP for at least two more years. Prices in the form bond segment are up 21.6% in the past eight months. There is a strong possibility of another increase yet this year.

This commodity should remain extremely tight until late 1988 when significant new capacity starts up in the U.S. and Canada. Further additions are scheduled for 1989; one forecast predicts operating rates will drop from approximately 96% in 1988 to 93% in 1989.

We hear mixed comments regarding additional increases this year but it looks like most expect another price increase within the next six months.

Coated Free Sheet: Although there is no expected increase in coated groundwood, there are two new machines coming on line this year in coated free. Availability runs from three to eight weeks and is "balanced" and on allocation. Most expect that current conditions will remain through the year. All indicate that prices are rising but don't expect any more increases this year.

Bleached Bristols: This is probably the one grade that is not on allocation and is generally available. Lead times are running from four to six weeks. Availability should remain about the same for the next six months. Only very moderate capacity increases are projected. All except one report increasing prices effective in the second quarter. Most anticipate a second increase later in the year.

Paperboard/Linerboard: Linerboard has been very strong with operating rates at 96%. A March 1 price increase likely will stick through 1988. Some incremental capacity increases will occur over the next 12 months. In addition, there is available swing capacity from heavy weight and sack paper. SBS grades are very tight primarily because much of the mill capacity can produce either pulp or board and exports are strong. We anticipate that this condition will remain for another six months. Recycled grades have "unprecedented backlogs." We also saw a first-quarter price increase. No capacity increase on recycled or SBS grades is expected. April and May prices are up on all board grades except recycled. Expected that recycled might move around midyear.

Pulp: The latest pulp increase on April 1 was the 10th consecutive increase for export and the ninth consecutive increase for domestic pulp prices. In January 1986, the pulp price was $370 a metric ton; as of April 1988 the price stood at $700 a metric ton, plus an additional $25 for export. The scary part is that wood pulp capacity is increasing slower than paper and paperboard. It is projected that there will only be a 1.9% annual pulp capacity increase over the next three years with market pulp share being only 1.1%. The only good part of this for those of us who sell waste paper is that demand (and thus prices) will also increase. 1987 total U.S. pulp production of market pulp reached 8.2 million tons.

To summarize, things don't look too bright now but there is light at the end of the tunnel late this year and into 1989. Hang in there and do the best you can until the pendulum swings the other way!

Packaging and Containers

Prepared by the N.A.P.M. Packaging and Containers Committee. Chair: Carl D. Dirkse, C.P.M., S.C. Johnson & Sons, Inc., Racine, Wisconsin.

The packaging industry continues to be a seller's market. Price increases are rampant and tightness of supply is being felt in many markets. Both the export and domestic markets are very strong.

U.S. paperboard production was up 5% in 1987 over 1986, which also was a very strong year. Paperboard production is currently running at 3% above its year-earlier pace. It is estimated that the linerboard industry is running at 99% of capacity. There is only one new linerboard machine planned, which will not start up until 1990.

Beyond the supply and price issues, the number-one concern in the packaging industry is the trend to restrict or tax packaging due to disposal problems. In addition to state legislation, the U.S. Congress is now looking at the problem. Eight bills dealing with plastics have been introduced in Congress so far.

Metal Cans: This industry basically has adequate supply with stable pricing. However, some members report price increases due to steel increases. A few members report some tightness of supply.

Fibre Cans: Supply is adequate. Some price increases are reported due to price increases in board stock.

Glass: Lead times are extending in the glass container industry. Overall capacity appears to be adequate, however. A few members report price increases. Business continues to be lost to plastic. The Glass Packaging Institute has declared its support of comprehensive curbside recycling as a way of curbing the nation's growing solid-waste problem.

Molded Plastics: This industry is driven by what happens to resins. Price increases continue unabated. Resin supply is so tight that some vendors are putting customers on allocation and are accepting no new customers. Exports of resins are very strong. No near-term relief is seen.

Five resin producers and four blow molders have formed NAPCOR (National Association for Plastic Container Recovery). NAPCOR will work on collection problems involved with recycling plastic bottles and encourage recycling without mandatory deposit laws.

Coca-Cola has announced the world's first returnable, refillable PET soft-bottle in Germany. The future of the bottle in the U.S. is uncertain.

Films: Films are also being influenced by plastic resins. Price increases on resins are being passed along. Lead times are lengthening due to short resin supplies.

Laminated Stock: This industry is being hit by shortages and price increases in plastic resins and aluminum foil. As a result, prices are increasing, lead times are lengthening and some tightness of supply is being experienced.

Metal Drums: Supply is adequate, but after several years of stable or decreasing prices, price increases are now being reported. This is primarily due to steel increases.

Fibre Drums: This industry is characterized by stable prices and adequate supply. However, a few members report price increases. This is probably due to board increases.

Folding Cartons: Supply is generally adequate but prices continue to increase. Both SBS and CCNB board increased in price. Exports of board are strong.

Corrugated: At the time of this writing, the Yellow Sheet is reporting a price of $410 per ton for 42 lb. linerboard. However, members are in disagreement as to whether this increase will stick and whether converters will be successful in passing it through to customers. Some members even talk of decreases in the third or fourth quarter.

Bags: Supply of paper bags is adequate, but prices are increasing due to increasing costs of paper. Prices are also increasing on plastic bags due to increased resin prices. Resin problems have also caused some tightness of supply. Safeway in Canada has announced a new plastic bag made from Ecolyte which is photodegradable. The Ecolyte content reacts with the sun's rays and causes a molecular breakdown of the film within a controlled time.

6/16/88 A6910-1

National Association of Purchasing Management

Report On Business®
June 6, 1988
Volume 6, Number 6

Growth of new orders improves

Inventories increase

Price advances continue

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

May Report

The economy continued to expand in May, say the nation's purchasing managers in their latest **Report on Business.** Although the rate of growth in production was somewhat slower than in April, growth in new orders was slightly faster. Vendor deliveries remained slow, but not to the extent of the past 11 months, reflecting the slower production growth rate. Employment declined slightly for the third consecutive month. Inventories grew in May after remaining flat in April and decreasing in the two previous months. Prices increased again after taking normal seasonal variations into consideration. The strong growth in new export orders continued, but at a slower rate than in April. Of those members exporting, 35% reported higher export orders compared to 40% in April, bringing the average for the first five months of 1988 to 37.5%.

The report was issued today by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. Said Bretz: "The economy continues to expand at a moderate rate. New orders, fueled by robust growth in export orders, increased at a brisk pace and all but assure the first half of 1988 will end with a record of modest but healthy economic growth."

The **Purchasing Managers' Index** increased to 55.1%, up slightly from 54.9% in April. May is the 22nd consecutive month this leading indicator has exceeded 50%. The 55.1% registered in May equals the 55.1% average for the first five months of 1988 as well as the first four months. Past experience indicates that, if this average were to continue for the remainder of 1988, it would be consistent with real GNP growth of about 3.4%, unchanged from last month. A reading above 50 indicates that the economy is generally expanding; below 50, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

Employment declined slightly in May for the third consecutive month when taking normal seasonal variations into consideration. The net difference (+3) between those indicating higher employment (14%) and lower (11%) also was slightly less than in April (+5).

Employment	% Higher	% Same	% Lower	Net
May	14	75	11	+3
April	16	73	11	+5
March	16	73	11	+5

Buying Policy

Lead times for production materials and maintenance, repair and operating (MRO) supplies continued to shorten, reflecting the easing in the rate at which vendor deliveries are slowing. Lead times of 60 days or less for production materials were reported by 78% of members, up from 75% in April and the most since September 1987 (80%). Lead times of 30 days or less for maintenance, repair and operating (MRO) supplies were reported by 87% of purchasers in May, up from 84% in April and 81% in March; this is the most since October 1987 (also 87%). However, lead times for capital expenditures lengthened somewhat, confirming the sharp increase in capital expenditures predicted by purchasers in their latest semiannual forecast on May 17. Lead times of 90 days or longer for capital purchases were reported by 74% of purchasers, up from 69% last month.

Percent Reporting

	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
Production Materials					
May	15	41	22	14	8
April	15	39	21	19	6
March	14	33	24	23	6
MRO Supplies					
May	38	49	10	3	0
April	36	48	13	3	0
March	35	46	15	3	1
Capital Expenditures					
May	9	6	11	19	55
April	8	7	16	15	54
March	9	6	10	18	57

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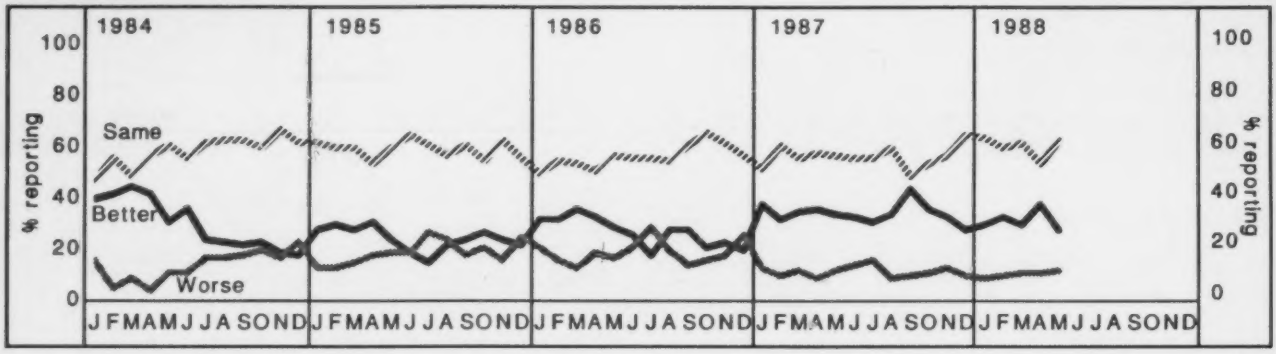
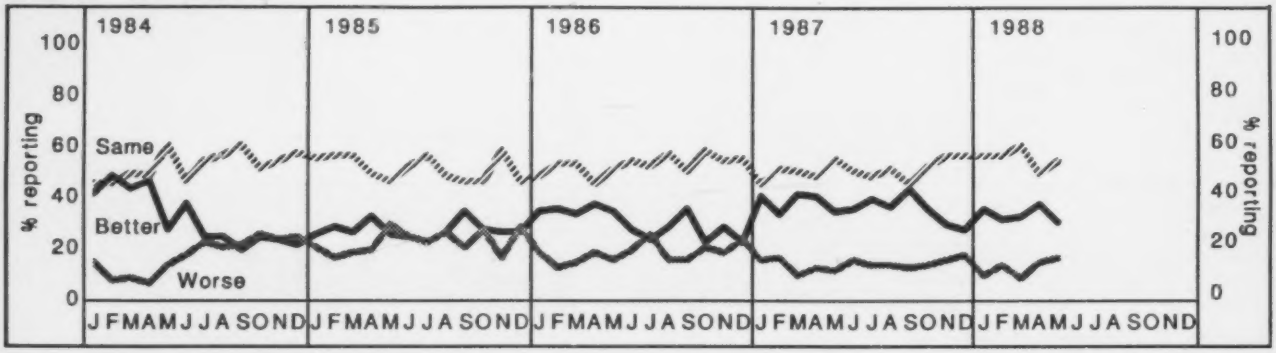
Production



May also marked the 17th consecutive month of growth in production. Although the number of members indicating better production fell to 27% from 37% in April, the actual slowing in the rate of growth was only slight when taking normal seasonal variations into consideration.

Production	% Better	% Same	% Worse	Net
May	27	62	11	+16
April	37	53	10	+27
March	29	61	10	+19

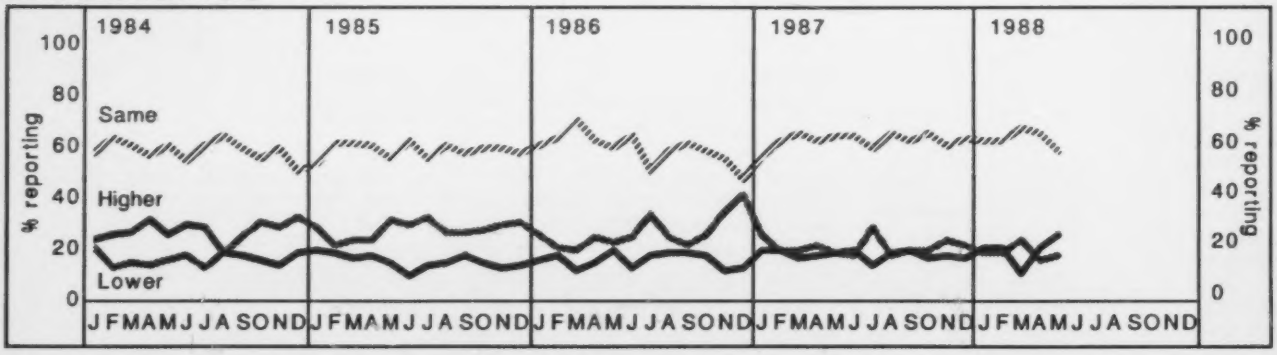
New Orders



New orders expanded for the 17th consecutive month. Although the net difference (+14) between the number of members reporting better new orders (30%) and worse (16%) decreased from +23, considering normal seasonal variations, the rate of growth actually increased slightly and augurs well for continued growth in production over the next 30 to 60 days.

New Orders	% Better	% Same	% Worse	Net
May	30	54	16	+14
April	37	49	14	+23
March	32	60	8	+24

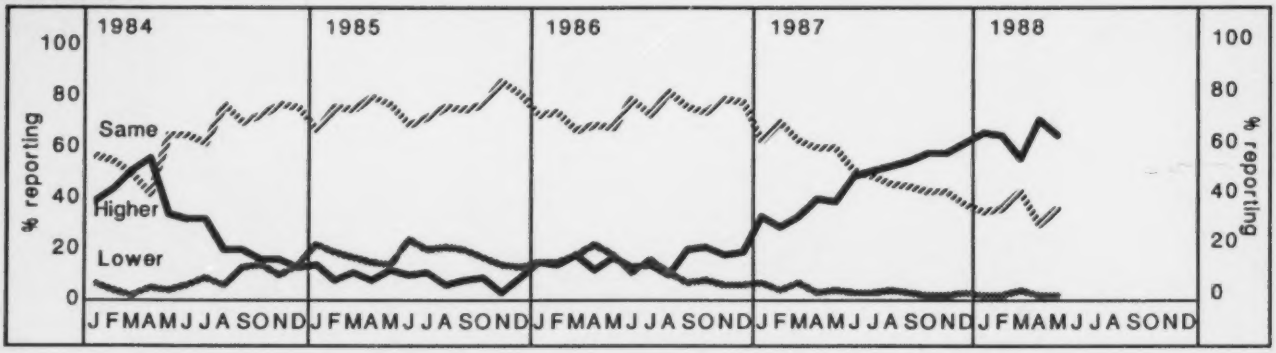
Inventories



Inventories expanded in May after no change in April and two previous months of decline. The 25% of members reporting higher inventories is the most since July 1984 (28%). However, some purchasers reported increasing their inventories in anticipation of suppliers' plant shutdowns for summer vacation and preventive maintenance as well as a hedge against protecting supplies of certain commodities in short supply.

Inventories	% Higher	% Same	% Lower	Net
May	25	58	17	+ 8
April	20	65	15	+ 5
March	10	67	23	−13

Prices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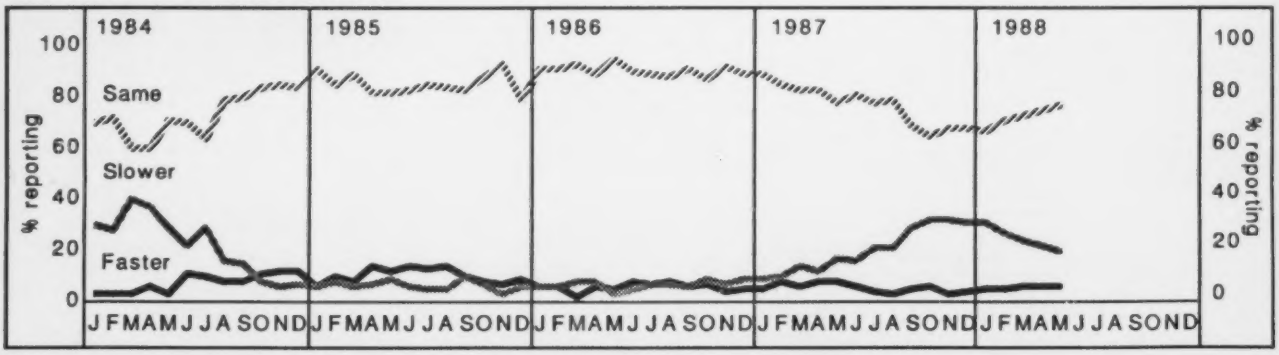
May marked the 20th consecutive month in which more purchasers reported higher prices than lower. The net difference (+63) between those reporting higher prices (64%) and lower (1%) is down sharply from April (+69). Nevertheless, considering normal seasonal variations, May could really be viewed as representing a slight rise in the rate of price increases.

Prices	% Higher	% Same	% Lower	Net
May	64	35	1	+63
April	70	29	1	+69
March	55	42	3	+52

Vendor Deliveries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For the 20th consecutive month, purchasers reported slower deliveries from their vendors. However, the rate at which vendor deliveries slowed was, once again, smaller. The net difference (−14) between those members reporting slower deliveries (19%) and faster (5%) is the smallest since June 1987 (−10).

Vendor Deliveries	% Faster	% Same	% Slower	Net
May	5	76	19	−14
April	5	74	21	−16
March	5	72	23	−18

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (25th time in 26 months), folding cartons (third consecutive month), paper products and packaging (fourth consecutive month), wood pulp (used in making all grades of paper and linerboard), caustic soda (18th consecutive month; used heavily in paper-making, petroleum refining and soap-making), aluminum (16th consecutive month), copper (14th time in 15 months; some reports of price decreases), nickel (third consecutive month; used heavily in making stainless steel, plating metals and batteries), steel (20th time in 21 months), stainless steel (fifth consecutive month), steel products (seventh consecutive month), zinc (fourth time in five months; used heavily in metal alloys and as a protective coating for metals), polyethylene (11th time in 12 months; used heavily in making packaging materials and paper coatings), polypropylene (used in making thermoplastic plastics or fibers), plastic resins (11th time in 12 months), polystyrene (used chiefly in making synthetic rubber, plastic resins and plastic), plastic products (12th time in 13 months), ethylene oxide (second consecutive month; used in chemical synthesis, sterilization and fumigation), ethylene (ninth time in 10 months; used heavily in making ethylene oxide and plastic resins), methanol (sixth consecutive month; used heavily as a solvent and in synthesizing other chemicals), titanium dioxide (second consecutive month; a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications), miscellaneous chemicals (eighth consecutive month) and semiconductors.

DOWN IN PRICE: Fuel oil (sixth consecutive month), natural gas (fourth consecutive month), cotton fabric and pepper.

IN SHORT SUPPLY: Aluminum (eighth consecutive month), copper (sixth consecutive month), nickel (third consecutive month), steel (14th time in 15 months), hot- and cold-rolled steel sheets (13th consecutive month), stainless steel (fifth consecutive month), castings, printing paper (third consecutive month), caustic soda (12th consecutive month), polyethylene, plastic resins, ethylene oxide (third consecutive month), ethylene (second consecutive month), ethylene derivatives (a fire at a major ethylene and ethylene-derivative plant is causing shortages), phenol (second consecutive month; used heavily in making phenolic resins), methanol (sixth consecutive month; caused primarily by a plant fire), methyl ethyl ketone (second consecutive month; used heavily as a chemical solvent in surface coatings and in making resins), methyl methacrylate (used in making hard clear plastics), titanium dioxide (10th consecutive month) and DRAMs, particularly 256K and 1-megabit dynamic electronic memory devices (third consecutive month; used heavily in computers), silicon (used in making integrated circuits, transistors, diodes and semiconductors) and latex disposable gloves.

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Note: The next issue of *Report on Business* will be available July 5.

Commodity Reports

Energy

Prepared by the N.A.P.M. Energy Committee. Chair: Howard T. Perley, C.P.M., International Paper Company, Memphis, Tennessee.

Petroleum Products: OPEC and non-OPEC producers met in the last week of April, basically agreeing to meet again in June to consider reducing production by 2.5% to 5%. The fact that the meeting took place will hold crude oil in the $17.50-to-$18.50-per-barrel range. After the June meeting, if an agreement is reached, the price may range from $18.00 to $19.00 per barrel through 1988.

The producers believe that cutting production by 2.5% to 5% will increase the price to return the same net back. This is true as long as they are all following the agreement. If any one producer violates the agreement, prices will dip below $18.00 per barrel.

Residual fuel prices will trend with crude. However, watch Gulf Coast demand. If it is a hot summer, utilities may utilize either natural gas or residual fuel oil for their peaking turbines. (*Gary Chesnut, Ag Processing Inc., Omaha, Nebraska)*

Natural Gas: Most buyers of spot market gas were surprised by the sharp rise in prices last December caused by a combination of cold weather and changing federal regulations. Equally surprising was the rapid decline in prices this spring to last year's levels. Prices won't go much lower, so now may be a good time to lock in firm-priced spot gas purchase agreements for a 12-month period. Contracts starting in the fall could be better with prices firm only until next spring. The lowest-priced offer may not necessarily be the best purchase. Dependability of supply is just as important as price.

A buyer just beginning to purchase spot market gas should first contact the local gas utility. Find out where its other customers are buying their gas, and check out references for recommended gas marketers. However, not all local utilities have agreed to transport user-owned gas, and transportation is mandatory in only a few states. (*Ian G. Mackenzie, C.P.M., Corning Glass Works, Corning, New York*)

Electric Power: Utilities are continuing to face an increasingly difficult task in planning to meet future demand for electricity. All planning decisions are affected by major changes in the growth rate of consumption; changing production patterns from cogeneration and independent producers; and regulatory uncertainty regarding cogenerated power, wheeling and assessment of "prudence" in operations.

During the 1960s electricity sales grew at 7.3% per year. In the 1970s this rate decreased to 4.2%; during the past five years growth has been at 1.9%. However, growth should increase to a 2.4% rate over the next 10 years.

Cogeneration has become so popular that some utilities are faced with larger volumes of available power than are needed to meet current demand. Additionally, many are faced with the specter of lower-cost power becoming available to their customers if mandatory wheeling is implemented.

The real and potential pressures of increasing competition are bringing many utilities to more innovative and flexible approaches to supply major customers. For some customers, cheaper power is being made available from a more distant source. Rates are being reviewed to consider "unbundling" the components of service. Lower rates in exchange for an agreement from the customer not to install cogeneration is commonplace.

These concessions to major customers will dramatically reduce electricity costs for them. However, smaller users can also expect only slight increases in costs as the capital component of electricity is lowered due to reduced capacity additions. Over the next five years, electricity prices should increase at a rate less than that of overall inflation. (*George T. Gillespie, Abbott Laboratories, North Chicago, Illinois*)

Coal: During March, April and May, coal users worked off some of the inventories built before the February union negotiations. Shipments to users will then resume as Southern utilities prepare for high summer usage levels. Although some suppliers have been forced to pass through the advantages obtained in the UMW settlement, the coal market and prevailing prices should remain relatively unchanged through this printing. Railroad transportation costs are high and barge availability is tight. These elements of coal's delivered cost also will not change. (*Judith K. Perry, International Paper Company, Memphis, Tennessee*)

Steel

Prepared for the N.A.P.M. Steel Buyers Group by John E. Irvine, Del Monte Corporation.

The steel industry remains strong. For the past year, this column has emphasized the steel turnaround, the industry's return to profitability, increased prices, longer lead times and growing shortages, but always with a subtle hint of the possibility that it would not last, that demand would fall off and the steelmakers would try to maintain volume with another round of increased discounting.

This hasn't happened and by now is not likely to. Demand has remained strong. Orders are being booked well into the third quarter now, and the possibility of the fall-off that some were expecting in the second half of the year is more and more remote.

The N.A.P.M. Steel Survey for the month of April bears this out. For one thing, an ever-increasing number of respondents to the survey, from 39% in April of 1987 to 90% in April of 1988, reported current shortages or expected shortages within the next six months.

Demand remains strong despite inventory levels that have been building during the past few months. In the April survey, 87% of the steel-buyer respondents indicated they will maintain or decrease inventory levels during the next six months, while a growing number, from 12% in November 1987 to 35% in the April survey, consider their inventory levels to be too high in relation to demand.

The steel buyers in the April survey expect business to remain strong. All those surveyed (100%) expect their sales and production to remain level or to increase during the next six months, with 94% expecting their incoming orders to be the same or up during the next three months. For steel receipts 81% expect the next three months to be the same or greater.

The Voluntary Restraint Agreements and the weak dollar have brought steel imports down to a more tolerable level. A growing number of steel buyers in the April survey report less dependence on off-shore sources. Imports this year are expected to be around 17 million tons, down from a peak of more than 24 million tons in 1984.

So the domestic steel industry's bubble is not about to burst. Strong demand should continue at least through this year, the impact of imports should be minimal, and the steel companies have shown that they can manage their business effectively and profitably. The corner into better times appears to have been turned.

7/19/88 A6910-1

National Association of Purchasing Management

Report On Business®

July 5, 1988
Volume 6, Number 7

Index Leaps to 59.3%

Price Increase Growth Highest Since March 1980

Export Orders Continue To Expand

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

June Report

The economy expanded in June at the fastest rate of growth since December, say the nation's purchasing executives in their latest **Report on Business.** Growth of both production and new orders advanced at a brisk pace. Vendor deliveries slowed considerably, reflecting continued tightness in the availability of numerous commodities. Employment increased, reversing the seasonally adjusted decline of the past three months. Inventories declined in June after increasing the previous two months. Prices increased slightly for the 21st consecutive month, mirroring the strong demand for increased production. New export orders continued to expand in June at a slightly faster rate of growth than in May. Of the 68% of members who say they export, 38% reported higher export orders, up from 35% in May, bringing the average for the first half of 1988 to 37.6%.

The report was issued today by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee and director of materials management at Pitney Bowes, Inc. Said Bretz: "The economy continues to expand at a vigorous rate, completing a second quarter somewhat stronger than the first. The brisk increase in new orders, unquestionably spurred by the significant gain in export orders, suggests the second half will at least begin with strong economic growth."

The **Purchasing Managers' Index** increased to 59.3%, up significantly from 55.1% in May. June marks the 23rd consecutive month this leading indicator has exceeded 50%. The 59.3% registered in June raises the average for the first half of 1988 to 55.8%. Past experience indicates that, if this average were to continue for the second half of 1988, it would be consistent with real GNP growth of about 3.6%. A reading above 50 indicates that the economy is generally expanding; below 50, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

After taking normal seasonal variations into consideration, employment barely increased in June after declining in the three previous months. The 20% reporting higher employment is the most since April 1987 (22%).

Employment	% Higher	% Same	% Lower	Net
June	20	64	16	+4
May	14	75	11	+3
April	16	73	11	+5

Buying Policy

Although plagued with slowing deliveries, shortages and increased production growth, purchasers kept lead times for production materials virtually unchanged. Lead times of 60 days or less for production materials were reported by 77% of members, down slightly from 78% in May. Lead times of 30 days and less for maintenance, repair and operating (MRO) supplies were reported by 82% of members, down significantly from 87% in May. Lead times for capital expenditures were shorter as 49% of members reported lead times of six months or longer, down sharply from 55% in May.

	Percent Reporting				
Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
June	14	41	22	18	5
May	15	41	22	14	8
April	15	39	21	19	6
MRO Supplies					
June	36	46	15	2	1
May	38	49	10	3	0
April	36	48	13	3	0
Capital Expenditures					
June	10	7	10	24	49
May	9	6	11	19	55
April	8	7	16	15	54

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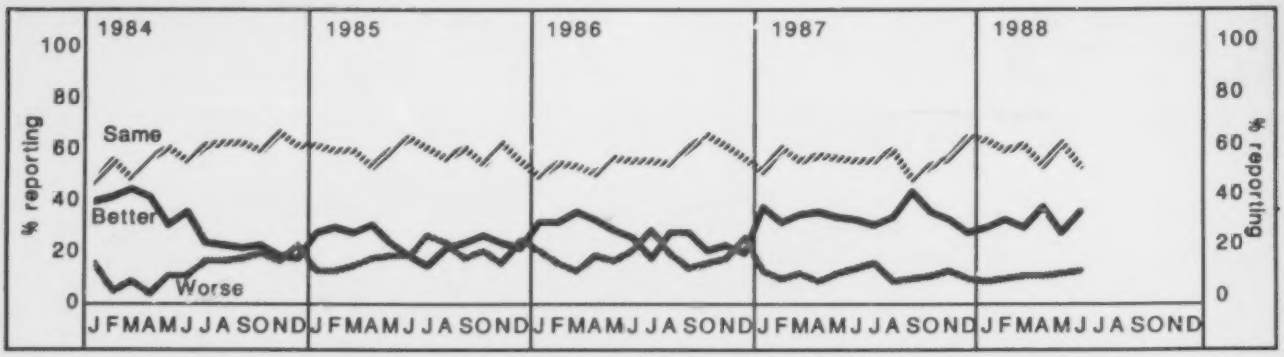
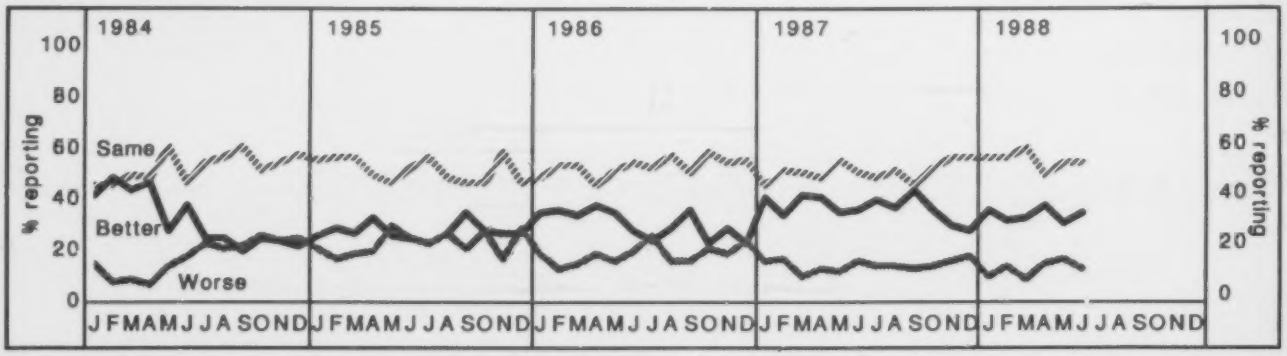
Production



Production also expanded for the 18th consecutive month. The number of members reporting better production increased to 35% from 27% in May and is about where it was in April (37%). However, when taking normal seasonal variations into consideration, the rate of growth in June is the highest since last October.

Production	% Better	% Same	% Worse	Net
June	35	53	12	+23
May	27	62	11	+16
April	37	53	10	+27

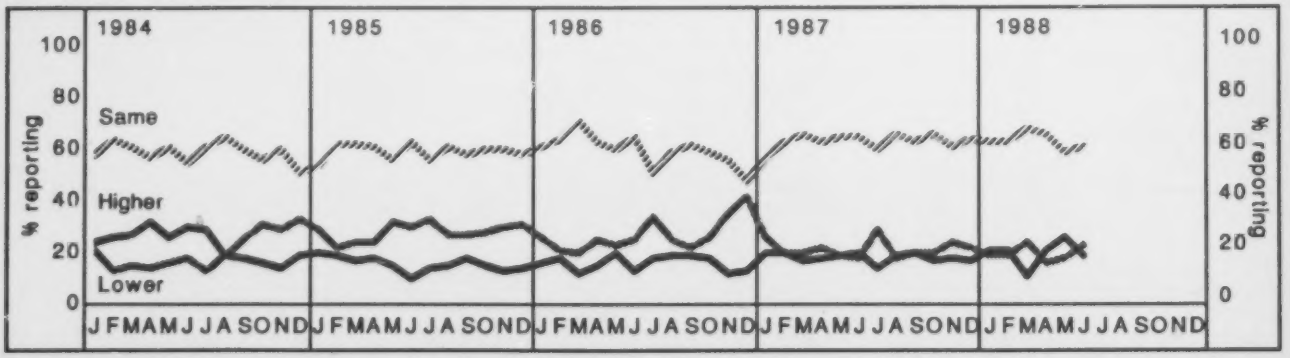
New Orders



June marked the 18th consecutive month that new orders have expanded. The net difference (+22) between the number of members reporting better new orders (34%) and worse (12%) increased from +14 in May and is about where it was in April (+23) and March (+24). However, considering normal seasonal variations, the rate of growth is the highest since October 1987 and signals a good beginning for production in the third quarter.

New Orders	% Better	% Same	% Worse	Net
June	34	54	12	+22
May	30	54	16	+14
April	37	49	14	+23

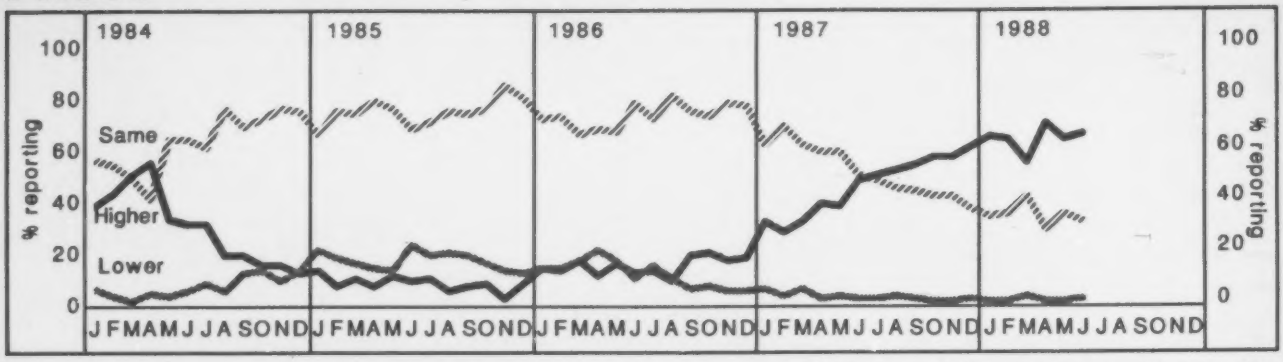
Inventories



Inventories declined slightly in June after increasing in May. Although purchasing managers report increased overall slowing in vendor deliveries and considerable difficulties in obtaining timely deliveries of numerous commodities in short supply, they persist in their efforts to keep inventories in line with production demand.

Inventories	% Higher	% Same	% Lower	Net
June	18	60	22	−4
May	25	58	17	+8
April	20	65	15	+5

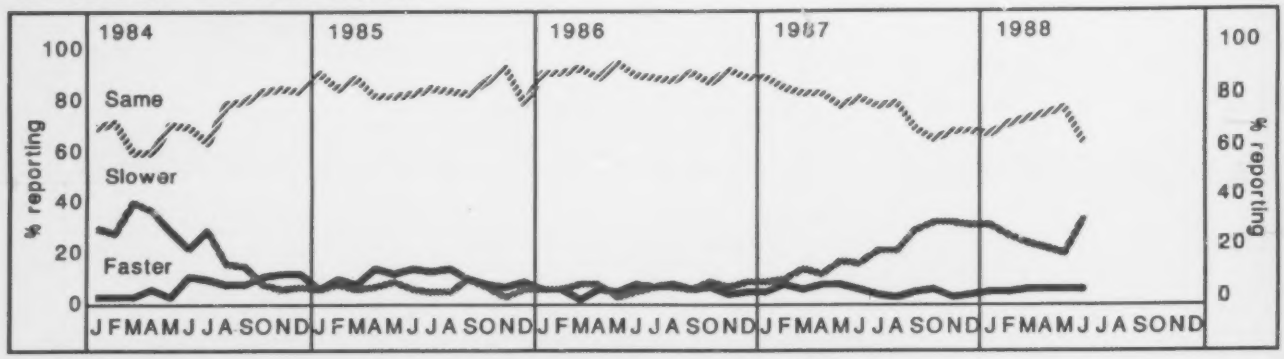
Prices



June was the 21st consecutive month in which more purchasers reported higher prices than lower. The net difference (+64) between those reporting higher prices (66%) and lower (2%) is up slightly from May (+63). However, after considering normal seasonal variations, the rate of growth in price increases is the highest since March 1980.

Prices	% Higher	% Same	% Lower	Net
June	66	32	2	+64
May	64	35	1	+63
April	70	29	1	+69

Vendor Deliveries



Purchasers reported slower deliveries from their vendors for the 21st consecutive month. The net difference (−27) between those members reporting slower deliveries (32%) and faster (5%) is up significantly from May (−14). Considering normal seasonal variations, the rate of increase in reports of slower deliveries is the highest since October 1987.

Vendor Deliveries	% Faster	% Same	% Slower	Net
June	5	63	32	−27
May	5	76	19	−14
April	5	74	21	−16

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (26th time in 27 months), printing paper (15th time in 18 months), paper products and packaging (fifth consecutive month), wood pulp (second consecutive month; used in making all grades of paper and linerboard), lumber, caustic soda (19th consecutive month; used heavily in paper-making, petroleum refining and soap-making), aluminum (17th consecutive month), brass (seventh time in eight months), copper (15th time in 16 months; some reports of price decreases), copper products, nickel (fourth consecutive month; used heavily in making stainless steel, plating metals and batteries), steel (21st time in 22 months), stainless steel (sixth consecutive month), steel products (eighth consecutive month), steel castings, steel pipe, zinc (fifth time in six months; used heavily in metal alloys and as a protective coating for metals), polyethylene (12th time in 13 months; used heavily in making packaging materials and paper coatings), plastic resins (12th time in 13 months), styrene (used chiefly in making synthetic rubber, plastic resins and plastic), plastic products (13th time in 14 months), ethylene oxide (third consecutive month; used in chemical synthesis, sterilization and fumigation), ethylene (10th time in 11 months; used heavily in making ethylene oxide and plastic resins), ethylene derivatives (fourth time in five months), methanol (seventh consecutive month; used heavily as a solvent and in synthesizing other chemicals), titanium dioxide (third consecutive month; a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications), antifreeze, miscellaneous chemicals (ninth consecutive month), vegetable oils (used heavily in processed foods) and silicon (used heavily in making transistors, diodes and semiconductors).

DOWN IN PRICE: None.

IN SHORT SUPPLY: Aluminum (ninth consecutive month), nickel (fourth consecutive month), steel (15th time in 16 months), hot- and cold-rolled steel sheets (14th consecutive month), stainless steel (sixth consecutive month), steel plate, printing paper (fourth consecutive month), caustic soda (13th consecutive month), styrene, polyethylene (second consecutive month), plastic resins (second consecutive month), ethylene oxide (fourth consecutive month), ethylene glycol (used heavily in making antifreeze, brake fluid, plastic paint and ink), ethylene (third consecutive month), ethylene derivatives (a fire at a major ethylene and ethylene-derivative plant is causing shortages and allocations), phenol (third consecutive month; used heavily in making phenolic resins), methanol (seventh consecutive month; caused primarily by a plant fire), methyl ethyl ketone (third consecutive month; used heavily as a chemical solvent in surface coatings and in making resins), methylene diisocyanate (MDI; used in making rigid urethane foam plastics), titanium dioxide (11th consecutive month), DRAMS, particularly 256K and 1-megabit dynamic electronic memory devices (fourth consecutive month; used heavily in computers), and miscellaneous chemicals.

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

Note: The next issue of *Report on Business* will be available August 1.

Commodity Reports

Non-Ferrous Metals

Prepared by the N.A.P.M. Non-Ferrous Metals Committee. Chair: Sharon Sinke, C.P.M., Frost Inc., Grand Rapids, Michigan.

Cadmium: Although reports indicate that more cadmium metal was produced domestically in the first quarter of 1988 than the previous quarter, the supply was very tight and prices ranged from $2.90 to $3.20 per pound, which was approximately three times higher than the same quarter of 1987.

The major factor for the increase in price and demand was the fast growth of the nickel cadmium battery industry, especially in Japan.

Also, eastern European consumption of cadmium increased and less material was available from China, U.S.S.R. and Australia. This caused the shortfall to worsen and prices increased to $3.50 per pound and up early in February.

By mid-February, prices had jumped to $7.00 to $7.50 with very little material available. Some producers stopped or limited sales until some stability returned to the market.

Indications were that the Japanese battery producers had purchased large amounts of European cadmium on forward contracts. As a result, less material was available in the marketplace.

The big increase in price was early in March when domestic producer levels reached $8.50 and $10.60 per pound, and the merchant level went to $9.20 and $10.00 per pound.

Demand slowed somewhat late in May and prices eased as a result of consumers buying just the bare minimum amount to keep their production going. Merchant prices dropped slightly. This caused some consumers to re-enter the market and caused another slight firming of prices.

At this time the future is uncertain. But prices of cadmium metal will probably remain firm and should ease off during the summer months when demand is usually down. (*Wilfred P. Brandes, Kraft Chemical Company, Melrose Park, Illinois*)

Zinc: Labor strikes at North American zinc production facilities in 1986–87 had driven metal stocks to below average levels. When, in early 1988, demand remained at record levels and production interruptions plagued the industry, supplies became tight and prices were pushed from a January low of $.445/lb. to mid-June highs of $.635/lb. Although some North American producers metal appears to be available "at a price," the weak dollar has discouraged traders from importing sufficient quantities of metal to completely cover the strong spot demand. Traders and producers consequently realize higher prices.

The forecast for the balance of 1988 is optimistic for zinc producers. The U.S. Mint, whose June 21 tender attracted $.70/lb. and signalled imminently higher prices, has announced another tender with bids due June 28. In addition to expectations for continued strong demand and a weak U.S. dollar, the current market momentum should serve to keep 1988 prices well above historical averages. (*Victoria P. Raddick, National Steel Corporation, Pittsburgh, Pennsylvania*)

Wood Products

Prepared by the N.A.P.M. Wood Products Committee. Chair: Samuel Craven, Pope & Talbot, Inc., Portland, Oregon.

The new construction industry and the secondary market (remodel and repair) have both shown better-than-anticipated stability during the past winter.

The outlook for the balance of 1988 is that the wood products industry should continue to be strong with both supply and pricing stable.

As in all industries, this is contingent upon interest rates holding steady and no big rise in inflation.

Another factor is the labor situation in the Northwest. Union contracts were up June 1 and some walkouts were experienced. This can, of course, reduce the supply and increase prices for available material. It is felt that although there are some major items at stake, agreements should be reached without any long-term strikes.

Lumber by-products (i.e., chips, sawdust and hog fuel) are in demand, as the pulp market continues to be strong. By-products are a major factor in the income of most mills.

The hardwood and veneer market continues to be strong with no major downturn in sight this year. The industry is driven by supply and demand, and prices can fluctuate quickly. Hopefully, interest rates and inflation will be stable, which will keep the demand for these products at a stable level through the year.

8/10/88 A6910-1

National Association of Purchasing Management

Report On Business®
August 1, 1988
Volume 6, Number 8

Inventory growth sets four-year record

Exports continue to fuel growth

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The *Report on Business* is based on data compiled from replies to questions asked of purchasing managers in some 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification category, based on each industry's contribution to national income.

July Report

The economy continued to expand in July at a pace just barely below that of June, say the nation's purchasing managers in their latest **Report on Business.** The production growth rate was slightly below June's when taking normal seasonal variations into consideration. New orders expanded at the second-greatest seasonally adjusted rate since last October; only June was brisker. Vendor deliveries remained slow, but the rate of slowing abated somewhat. Employment increased for the second consecutive month, aided by temporary summer employment. Inventories increased at the greatest rate of growth since July 1984 after considering normal seasonal variations. Prices increased for the 22nd consecutive month, but at a somewhat slower pace. New export orders continued to grow at a torrid pace in July. Of the 75% of members who export, 39% reported higher export orders, up from 38% in June, bringing the average for 1988 to 37.8%. Only 3% of exporters said their exports were worse, the same as in June.

The report was issued today by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee, and director of materials management at Pitney Bowes, Inc. Said Bretz: "The economy entered the third quarter at the same strong pace as it left the second. The vigorous increase in new orders, undoubtedly fueled by the surge in export orders, is impressive and signals continued robust economic growth for the balance of the third quarter."

The **Purchasing Managers' Index** registered a strong 59%, fractionally lower than 59.3% in June; July marks the second anniversary this leading indicator has exceeded 50%. Bretz said, "The 59% reached in July raises the average for the first seven months of 1988 to 56.3%. Past experience indicates that, if this average were to continue for the remainder of 1988, it would be consistent with real GNP growth of about 3.7%." A reading above 50 indicates that the economy is generally expanding; below 50, that the economy is generally declining. The index is based on analysis by the U.S. Department of Commerce. Except for this index, the information in this report is not seasonally adjusted.

Net Difference

In each category measured, this report shows a net difference, the difference between the number of responses in the positive direction (higher, better, faster) and the negative direction (lower, worse, slower). Analysis of the month-to-month difference compares the rate of change.

Employment

Employment increased in July for the second consecutive month after declining in the three previous months. The net difference (+7) between the number of members reporting higher employment (19%) and lower (12%) is the greatest since December. Some of the increase might be explained by the large number of members hiring temporary employees during summer vacation periods.

Employment	% Higher	% Same	% Lower	Net
July	19	69	12	+7
June	20	64	16	+4
May	14	75	11	+3

Buying Policy

Lead times of 60 days or less for production materials were reported by 79% of purchasers, up from 77% in June; this is the most to so report since September 1987 (80%), indicating shorter lead times. Lead times for capital expenditures were longer, as 56% of members reported lead times of six months and longer, up considerably from 49% in June, but only slightly ahead of May (55%). Lead times for maintenance, repair and operating (MRO) supplies were virtually unchanged from June.

Percent Reporting

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Months and Longer
July	16	40	23	15	6
June	14	41	22	18	5
May	15	41	22	14	8
MRO Supplies					
July	35	48	15	2	0
June	36	46	15	2	1
May	38	49	10	3	0
Capital Expenditures					
July	8	5	13	18	56
June	10	7	10	24	49
May	9	6	11	19	55

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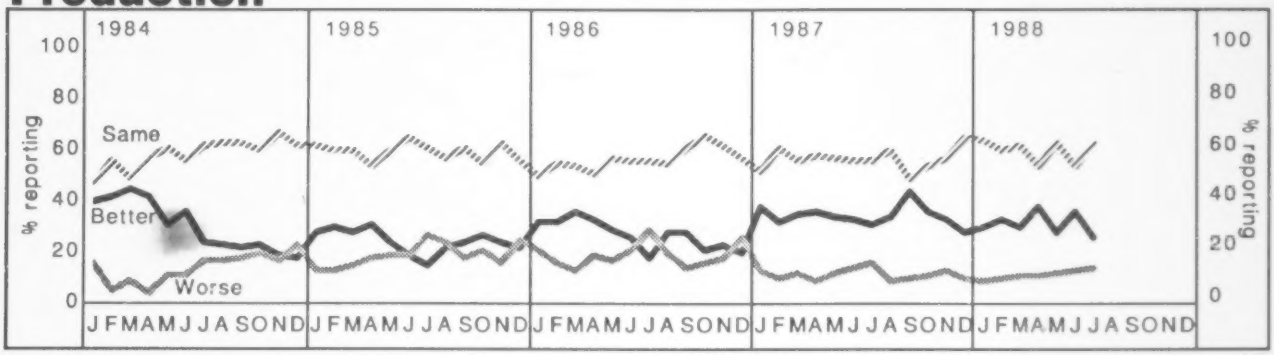
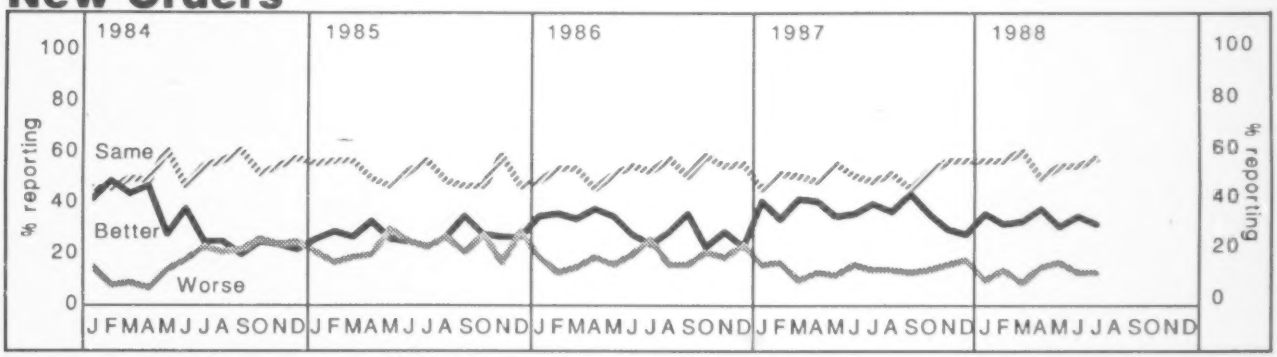
Production



July also marked the 19th consecutive month of growth in production. Although the number of members reporting better production (25%) was down from June (35%), when taking normal seasonal variations into consideration, the rate of growth in July was the second-highest since October 1987; only June was higher.

Production	% Better	% Same	% Worse	Net
July	25	62	13	+12
June	35	53	12	+23
May	27	62	11	+16

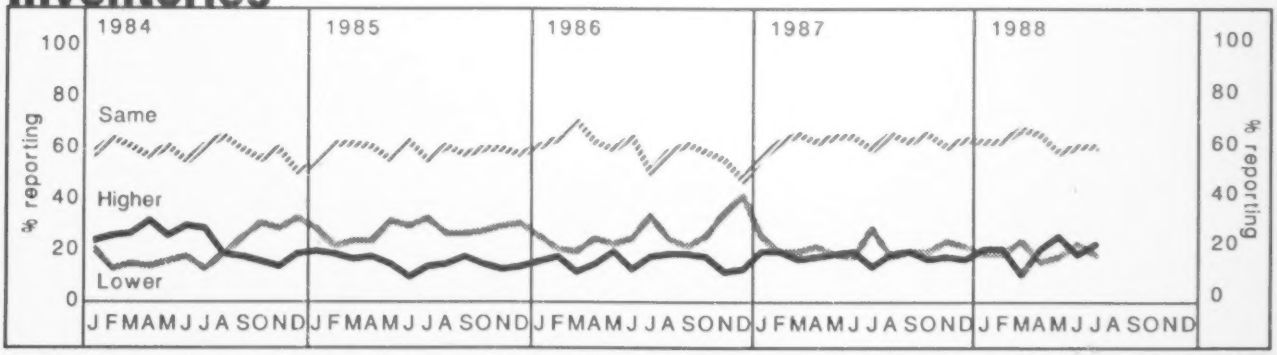
New Orders



New orders expanded in July for the 19th consecutive month. The net difference (+19) between the number of members reporting better new orders (31%) and worse (12%) is only slightly less than in June (+22). Considering normal seasonal variations, this is the second-greatest rate of growth since last October and suggests a continued growth in production.

New Orders	% Better	% Same	% Worse	Net
July	31	57	12	+19
June	34	54	12	+22
May	30	54	16	+14

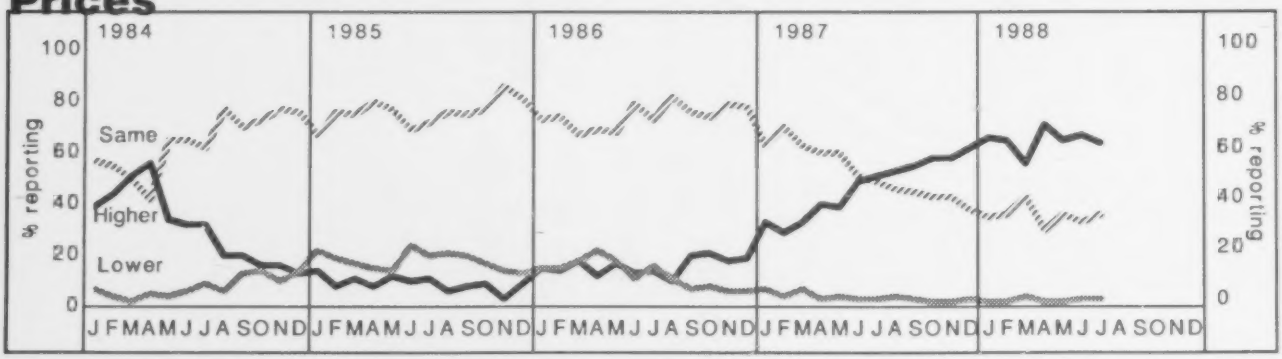
Inventories



Inventories grew at a fast pace in July. The net difference (+4) between the number of members reporting higher inventories (22%) and lower (18%) was considerably greater than in June (−4). Taking normal seasonal variations into consideration, the rate of increase was the greatest since July 1984. Some of the increase in inventory may be attributed to receiving products earlier than required from suppliers who closed their plants for vacation and maintenance and as a hedge against the significant number of price increases that went into effect July 1.

Inventories	% Higher	% Same	% Lower	Net
July	22	60	18	+4
June	18	60	22	−4
May	25	58	17	+8

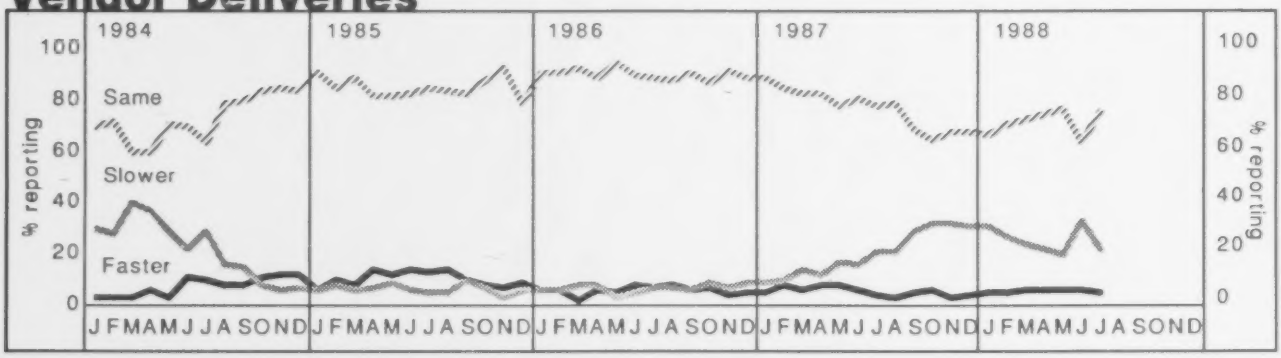
Prices



Prices increased for the 22nd consecutive month. The net difference (+61) between those reporting higher prices (63%) and lower prices (2%) is only slightly smaller than in June (+64) and remains one of the biggest concerns of purchasers. The prolonged drought is adding to these concerns.

Prices	% Higher	% Same	% Lower	Net
July	63	35	2	+61
June	66	32	2	+64
May	64	35	1	+63

Vendor Deliveries



Purchasers reported slower deliveries for the 22nd consecutive month. However, the slowing in vendor deliveries in July, a sign of growth in the economy, is significantly less than in June. Only 21% of members reported their deliveries were slower in July, down considerably from June (32%). Many members reported their plants were closed for normal maintenance and vacations, which may have contributed to the mid-summer easing in slower deliveries.

Vendor Deliveries	% Faster	% Same	% Slower	Net
July	4	75	21	−17
June	5	63	32	−27
May	5	76	19	−14

Specific Commodity Changes

UP IN PRICE: Corrugated shipping containers (27th time in 28 months), printing paper (16th time in 19 months), paper products and packaging (sixth consecutive month), solid bleached sulfite (SBS — bleached and coated paperboard), caustic soda (20th consecutive month; used heavily in paper-making, petroleum refining and soap-making), aluminum (18th consecutive month), copper (16th time in 17 months; some reports of price decreases), nickel (fifth consecutive month; some reports of price decreases; used heavily in making stainless steel plating metals and batteries), steel (22nd time in 23 months), stainless steel (seventh consecutive month), hot- and cold-rolled steel sheets (second time in four months), steel products (ninth consecutive month), magnesium (used heavily in making light alloy steel for precision instruments), zinc (sixth time in seven months; used heavily in metal alloys and as a protective coating for metals), rubber, polyethylene (13th time in 14 months; used heavily in making packaging materials and paper coatings), polypropylene (used in making fabics, carpets and yarns), plastic resins (13th time in 14 months), styrene (second consecutive month; used chiefly in making synthetic rubber, plastic resins and plastic), propylene glycol (used heavily in making plastic resins, as a nontoxic antifreeze in foods, a solvent for pharmeceuticals and a substitute for ethylene glycol), plastic products (14th time in 15 months), polyvinyl chloride (PVC — used heavily as a substitute for rubber in tubing, belting and pipe), ethylene glycol (used heavily in making antifreeze, brake fluid, plastic paint and ink), ethylene oxide (fourth consecutive month; used in chemical synthesis, sterilization and fumigation), ethylene (11th time in 12 months; used heavily in making ethylene oxide and plastic resins), ethylene derivatives (fifth time in five months), methanol (eighth consecutive month; used heavily as a solvent and in synthesizing other chemicals), phenol (used heavily in making phenolic resins), titanium dioxide (fourth consecutive month; a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications), antifreeze (second consecutive month), miscellaneous chemicals (10th consecutive month), sweeteners (used heavily in beverages and processed foods), electric motors, bearings, and natural gas.

DOWN IN PRICE: Fuel oil.

IN SHORT SUPPLY: Aluminum (10th consecutive month), nickel (fifth consecutive month), hot- and cold-rolled steel sheets (15th consecutive month), stainless steel (seventh consecutive month), magnesium, printing paper (fifth consecutive month), bleached paperboard, nylon fabric, caustic soda and soda ash (14th consecutive month), polyethylene (third consecutive month), plastic resins (third consecutive month), acrylic acid (used in manufacturing plastics), ethylene oxide (fifth consecutive month), ethylene glycol (second consecutive month), ethylene (fourth consecutive month), ethylene derivatives (second consecutive month; a fire at a major ethylene and ethylene-derivative plant is causing shortages and allocations), phenol (fourth consecutive month), methanol (eighth consecutive month; caused primarily by a plant fire), methyl ethyl ketone (fourth consecutive month; used heavily as a chemical solvent in surface coatings and in making resins), methylene diisocyanate (second consecutive month; MDI — used in making rigid urethane foam plastics), and titanium dioxide (12th consecutive month).

The National Association of Purchasing Management's *Report on Business* records the actual changes and rates of change in six important categories of data: production, new orders, inventories, prices, vendor deliveries and employment. These six components, as reported, are not adjusted to compensate for seasonal variations.

Economists have devised a variety of formulas to compensate data for seasonal variations. N.A.P.M. cooperates with the U.S. Department of Commerce, which prepares the monthly Purchasing Managers' Composite Index for publication by N.A.P.M. The Department of Commerce adjusts the six components of *Report on Business* listed above, applies various weights to each and combines them into a single index number. The Composite Index is based on analysis by the Department of Commerce and is the only part of the report adjusted for seasonal variations.

Note: The next issue of *Report on Business* will be available September 6.

Commodity Reports

Paper Products

Prepared by the N.A.P.M. Paper Committee. Chair: Glenn E. Farber, C.P.M., Vanier Graphics Corporation, Santee, California.

A *Pulp and Paper Week* survey of 29 companies shows profits up 61.5 percent and sales increases of 19.3 percent compared to the first quarter of 1987.

This surge of profits has been reinvested. An additional 6.1 million tons per year of new capacity is scheduled between 1988 and 1990. This is an average growth rate of 2.5 percent and puts the total added tonnage between 1985 and 1990 at 12.7 million tons.

Newsprint: Approximately 2 million metric tons of capacity, a 12 percent increase, is now being built or planned in North America. Growth of demand is expected to be only about 2 percent in 1988 and 1.7 percent in 1989. Operating rates will probably stay in the high 90s for 1988 but will drop to the mid-90s in 1989. Expectations of a price increase this fall are diminishing in favor of a later increase, perhaps in January 1989. Shipments are steady and mill inventories are increasing.

Uncoated Groundwood: This commodity remains in strong demand and markets are still fairly tight. Growth stood at 2.2 percent through April compared to the same period in 1987. This grade is available but is largely on allocation; some mills are even asking for orders. Imports continue to supply a major portion of this commodity. Only minor expansions are scheduled in the next 12 months.

Coated Groundwood: This grade is still very strong and has grown, along with coated free, 13.9 percent since last year. The rapidly growing magazine and commerical printing markets continue to support this commodity's growth. Imports also continue to grow at healthy rates. Prices were expected to increase July 1 by approximately 5 to 6 percent. Additional capacity of approximately 200,000 tons is slated to come on soon.

Uncoated Free Sheet: Uncoated free sheets continue to be in strong demand. Additional capacity will start up this fall; early 1989 should see a temporary balancing effort between supply and demand until the added capacity is absorbed. The price increase of April 1 appears to have held and there are indications of additional increases coming up shortly. Price hikes in the cut-size reprographics offset grades were effective July 1. The next price increases will probably be the last for perhaps a year while new capacity is absorbed. A new 200,000 TPY mill has been announced for late 1990. All grades continue on allocation with lead times steady. Almost all believe that allocations will continue through 1988 but then should loosen as new capacity becomes operational. Spot buyers may have trouble getting what they want when they want it.

Coated Free Sheet: Operating rates for this commodity remain between 92 and 95 percent. Growth in 1988 is expected to be around 6.5 percent. Continued strong demand dramatically increased exports by 22 percent in 1987. Capacity increases are expected to be about 4.8 percent this year. Two new machines are starting up later this year. This grade is on allocation, with lead times of six to eight weeks expected to continue through the balance of this year. More buyers are increasing inventories. Another price increase is expected this year.

Bleached Bristols: This commodity has tightened considerably since last report. Buyers are indicating allocations and cycles are filling several months in advance, requiring earlier placement of orders. Production is up 10.5 percent from last year. This may continue for some time; one respondent expects a very tight situation the second quarter of 1989. Inventories appear to be increasing. Lead times are stable. Prices are increasing with another jump expected later this year.

Paperboard/Linerboard: Linerboard and resulting corrugated boxes logged record shipments for the 21st consecutive month. Consumption is up 5.6 percent over the same period in 1987. Once again, the export market is keeping demand up and helping to get price increases. Demand for SBS grades continues strong both domestically and for export. Linerboard capacity is expected to increase 2.7 percent in 1988, 4.5 percent in 1989 and 3.0 percent in 1990. Expect another price increase in the fall for SBS, SUS and perhaps linerboard, although this likely will hold until early 1989.

Pulp: The first pulp increase for the third quarter was recently announced at $35 metric ton. Pulp inventories continue to be quite low thus helping the increases. We are finally seeing some additional capacity announcements. Northern bleached softwood kraft pulp is extremely tight. Hardwood pulp is a little more available. Operating rates are reported at 102 percent of capacity.

Packaging

Prepared by the N.A.P.M. Packaging Committee. Chair: Carl D. Dirkse, C.P.M., S.C. Johnson & Son, Inc., Racine, Wisconsin.

The boom in the packaging business continues. Production plants are running at capacity, prices are rising, and lead times are lengthening. Some materials are on allocation. Packaging buyers are trying to reduce prices by material substitutions and redesigning.

The boom is fueled by domestic demand due to the strong economy and by strong export demand resulting from the weak dollar and a strong worldwide economy.

Amidst all this good news for packaging looms the increasing concern about what new laws will be passed on the disposal of packaging waste. Suffolk County, Long Island has signed into law a bill prohibiting the use of plastic grocery sacks and various plastic food containers and utensils. News comes in almost daily about other legislation restricting the use and disposal of plastic products.

Metal Cans: After years of surplus capacity and falling prices, the metal can market is now strengthening. The majority of members are reporting price increases, due primarily to tinplate increases. American National Can Co. has announced the close-down of its Philadelphia plant.

Fibre Cans: Supply continues to be adequate, although one member reports some supply problems. Prices are rising due to increases in kraft board.

Glass: The merger of Owens Illinois and Brockway has finally been consummated. It remains to be seen what effect this will have on glass buyers. Anchor Glass has announced the closing of two more facilities purchased from Diamond-Bathurst: a glass container plant in Chattanooga, Tennessee and a mold manufacturing plant in Reno, Pennsylvania. Glass demand remains strong and prices are increasing.

Molded Plastics: Every responding member but one reports price increases. This is due to the continuing price increases for all resins. Supply is extremely tight and many customers are on allocation. Supply has been adversely affected by the fire at the huge Shell Norco, Louisiana chemical complex. The biggest factor in the shortage is the large volume of resin being exported. Several new resin facilities have been announced, but as long as the exports continue, it will be some time before supply catches up with demand.

Films: Both packaging films and stretch films are in tight supply. Continuing resin price increases are being passed on to film buyers.

Laminated Stock: Laminated stock is being hit on every side by raw material price increases: plastic resin, foil, and paper. As a result, prices are increasing rapidly and supplies are very tight.

Metal Drums: This industry experienced surplus capacity and falling prices for a number of years. However, with the strong economy and steel price increases, supply and demand are in balance and prices are increasing. Some business is being lost to plastic drums.

Fibre Drums: Supply is adequate. However, prices are increasing due to linerboard price increase.

Folding Cartons: This is another industry that was in the doldrums for many years and is now booming. Shortages of CCM and SBS board are being reported. The majority of our members report price increases and no one reports a decrease.

Corrugated: Linerboard shipments are running at unprecedented levels. Both domestic demand and export demand are extremely strong. Shortages and lengthening lead times are being reported. The $410 ton linerboard price is sticking and further increases are rumored. However, not all members agree on this. Some see price increases into 1989, some see the price remaining at $410, and some even see the price falling by the end of the year. Several new linerboard plant expansions have been announced which should eventually help the supply situation.

Bags: Bags suffer from the same problem as other packaging items — tight supply and rising prices. Bags are impacted by the plastic resin and kraft paper market. The battle between plastic and paper retail bags continues. The prices of plastic resin and disposal problems may hinder the expansion of plastic bags. Stone Container continues its acquisitive ways. Stone has agreed to acquire another bag company: Trinity Paper and Plastic Corp. of New York City.

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9/14/88

National Association of Purchasing Management

Report On Business®

September 6, 1988
Volume 6, Number 9

Index Slips to 56.2%

Export Growth Weakens

Price Increase Rate Lower

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

August Report

The economy continued to expand in August but at a slower pace than in the last two months, say the nation's purchasing executives in their latest ***Report on Business.***

Although **Production** continued to grow, the rate of growth was less than that of the previous two months. The rate of growth in **New Orders** also slipped from the rapid pace registered in June and July, but still remains strong. New export orders, largely responsible for the vigorous growth in new orders, continued to advance, but at a decidedly slower pace. Of those members who export, 20% reported higher export orders, down from 39% in July and the 37.8% previous seven month average for 1988. Only 4% said their export orders were worse, barely more than the 3% noted in July. **Vendor Deliveries** remained slow; but for the second consecutive month the rate of slowing lessened. **Employment** increased in August for the third consecutive month, aided again by temporary summer employment. **Inventories** declined considerably in August after the significant increase reported by purchasers in July. **Prices** increased for the 23rd consecutive month but at the lowest rate of growth since March.

The **Report** was issued today by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee, and director of materials management at Pitney Bowes, Inc. Said Bretz, "The intense rate of growth in new export orders cooled in August. Although the economy continued to grow in August, it did so with less vigor than the past two months. Nevertheless, new orders are still at a high enough level to all but assure robust economic growth for the third quarter."

PURCHASING MANAGERS' INDEX

The ***Purchasing Managers' Index*** slipped to 56.2% in August, down from 59% in July and the second consecutive month's decline. Nevertheless, the 56.2% is the third highest index reported in 1988 and represents the 25th consecutive month this leading indicator has exceeded 50%. Bretz said, "The 56.2% registered in August brings the average for the first eight months of 1988 to 56.3%. Past experience indicates that, if this average were to continue for the remainder of 1988 it would be consistent with real GNP growth of about 3.7%, unchanged from last month."

Purchasing Managers' Index

August	56.2	April	54.9
July	59.0	March	53.3
June	59.3	February	54.9
May	55.1	January	57.4

Data and method of presentation

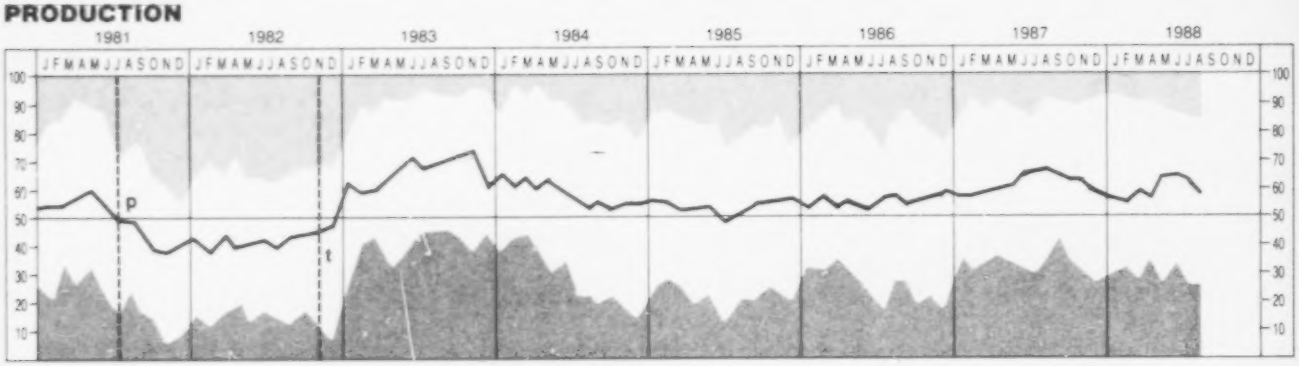
The *Report on Business* is based on data compiled from monthly replies to questions asked of purchasing executives in over 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification (SIC) category, based on each industry's contribution to Gross National Product (GNP). Twenty-one industries in 50 states are represented on the committee.

Survey responses reflect the change, if any, in the current month compared to the previous month. For each of the indicators measured (new orders, production, vendor deliveries, inventories, employment and prices), this report shows the percent reporting each response, the net difference between the number of responses in the positive economic direction (higher, better, and slower for vendor deliveries) and the negative economic direction (lower, worse and faster for vendor deliveries), and the diffusion index.

Responses are raw data and are never changed. The diffusion index includes the percent of positive responses plus one-half of those responding the same (considered positive). The resulting single index number is then seasonally adjusted to allow for the effects of repetitive intra-year variations resulting primarily from normal differences in weather conditions, various institutional arrangements and differences attributable to non-moveable holidays. All seasonal adjustment factors are supplied by the U.S. Department of Commerce and are subject annually to relatively minor changes when conditions warrant them. The Purchasing Managers' Index is a composite index based on the seasonally adjusted diffusion indexes for five of the indicators (new orders, production, vendor deliveries, inventories and employment) with varying weights applied.

Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. An index reading above 50% indicates that the economy is generally expanding; below 50% that the economy is generally declining. The distance from 50% is indicative of the strength of the expansion or decline.

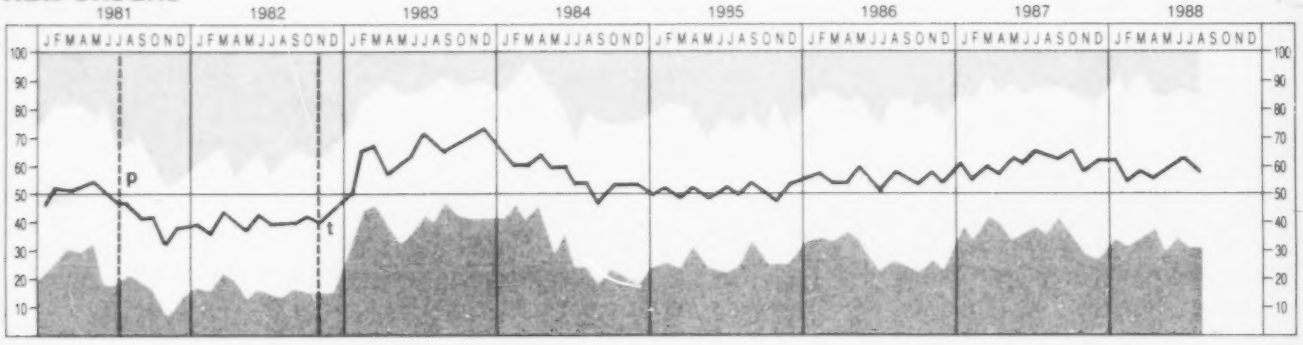
PRODUCTION



August marked the 25th consecutive month that production has expanded, when taking normal seasonal variations into consideration. The index (58.2%) is the fourth highest registered this year, although significantly lower than June (63.1%) and July (62.7%).

Production	%Better	%Same	%Worse	Net	Index
August	26	60	14	+12	58.2
July	25	62	13	+12	62.7
June	35	53	12	+23	63.1
May	27	62	11	+16	56.9

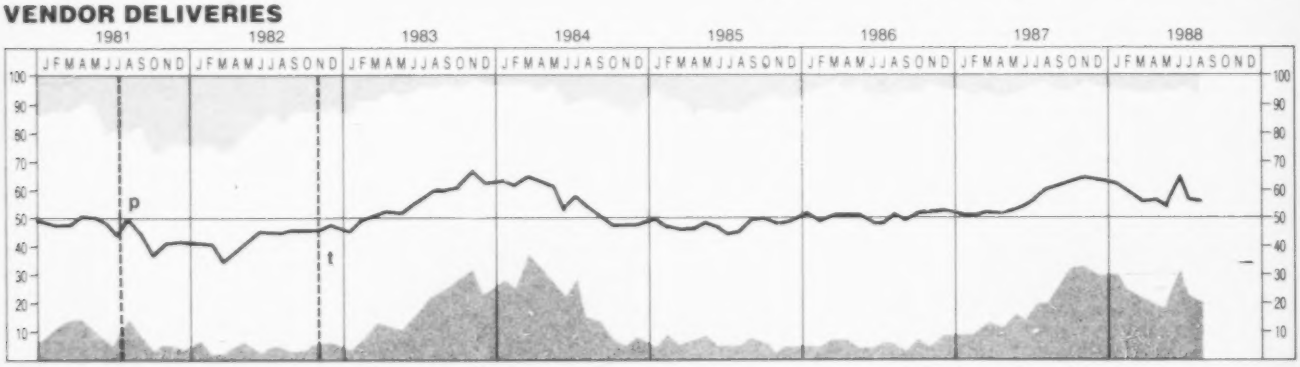
NEW ORDERS



New orders expanded in August for the 39th consecutive month, after considering normal seasonal variations. Although the rate of growth is somewhat slower than June or July, the index at 59.9% is the fourth highest reached in 1988 and signals continued production growth to end the third quarter.

New Orders	%Better	%Same	%Worse	Net	Index
August	31	54	15	+16	59.9
July	31	57	12	+19	62.1
June	34	54	12	+22	62.7
May	30	54	16	+14	58.4

VENDOR DELIVERIES



Purchasers continued to report slower vendor deliveries. The August index (58.1%) marks the 23rd consecutive month this leading indicator has exceeded 50%. Nevertheless, the rate of slowing in deliveries is less than in June or July and the number of members reporting faster deliveries (7%) is the most since May 1987 (also 7%).

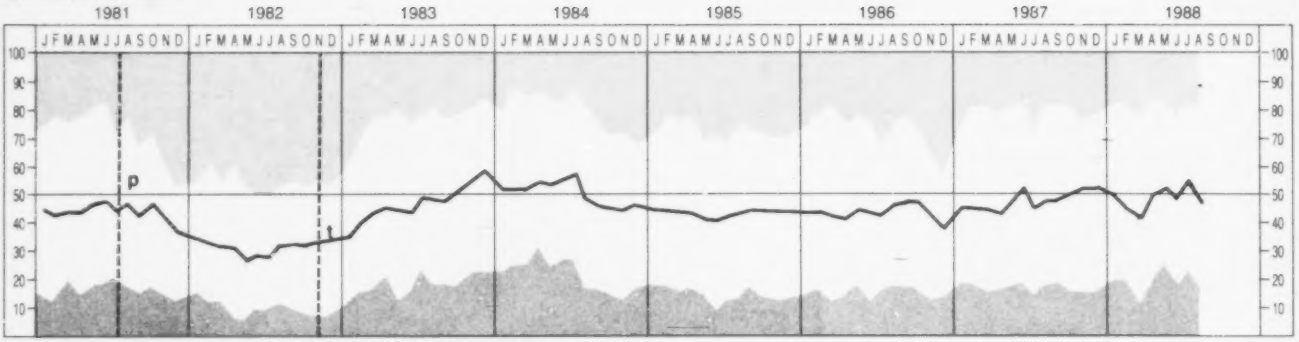
Vendor Deliveries	%Slower	%Same	%Faster	Net	Index
August	20	73	7	−13	58.1
July	21	75	4	−17	58.8
June	32	63	5	−27	65.5
May	19	76	5	−14	55.9

IN SHORT SUPPLY:

Aluminum (11th consecutive month), steel (16th time in 18 months), stainless steel (eighth consecutive month), steel tubing, printing paper (sixth consecutive month), bleached paperboard (second consecutive month), caustic soda and soda ash (15th consecutive month; used heavily in papermaking, petroleum refining and soap-making), polyethylene (fourth consecutive month; used heavily in making packaging materials and paper coatings), plastic resins (fourth consecutive month), ethylene oxide (sixth consecutive month; used in chemical synthesis, sterilization and fumigation), ethylene glycol (third consecutive month; used heavily in making antifreeze, brake fluid, plastic paint and ink), antifreeze, ethylene (fifth consecutive month; used heavily in making ethylene oxide, plastic resins and glycols), ethylene derivatives (third consecutive month), phenol (fifth consecutive month; used heavily in making phenolic resins), methyl ethyl ketone — MEK (fifth consecutive month; used heavily as a chemical solvent in surface coatings and in making resins), titanium dioxide (13th consecutive month; a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications) and bearings.

NOTE: three major ethylene and ethylene-derivative plants previously closed because of fires, are now back in production.

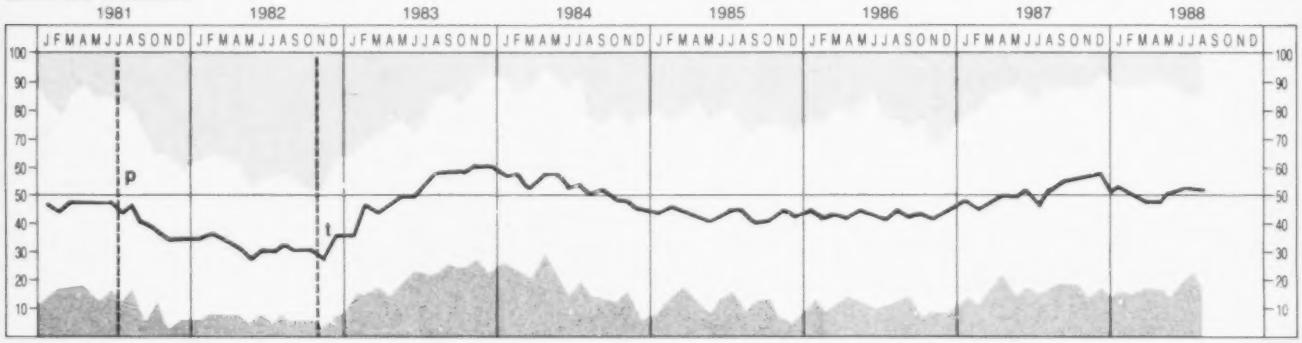
INVENTORIES



Inventories declined in August after rising significantly in July, when considering normal seasonal variations. The decline in the index to 48.6% from 55.1% in July reflects the determination of purchasers to balance inventory with production demands.

Inventories	%Higher	%Same	%Lower	Net	Index
August	18	64	18	0	48.6
July	22	60	18	+ 4	55.1
June	18	60	22	− 4	48.5
May	25	58	17	+ 8	52.1

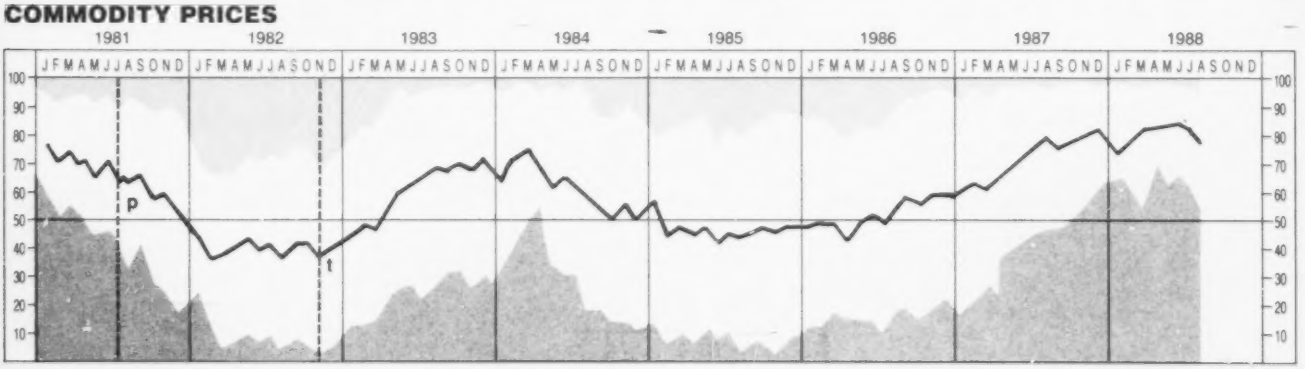
EMPLOYMENT



Employment increased in August, when taking normal seasonal variations into consideration. This is the third consecutive month's increase after registering declines in the three previous months. The rate of increase slowed somewhat in August to an index of 50.7% from 51.7% in July.

Employment	%Higher	%Same	%Lower	Net	Index
August	16	68	16	0	50.7
July	19	69	12	+ 7	51.7
June	20	64	16	+ 4	50.1
May	14	75	11	+ 3	48.5

COMMODITY PRICES



Prices increased for the 25th consecutive month when considering normal seasonal variations. Nevertheless, there is some glimmer of hope that the rate of growth in price increases may be declining. The index fell to 78.7% in August from 81.1% in July and is the lowest since March (74.1%). Price increases in metals appear to be abating but drought-related increases seem to be taking their place.

Prices	%Higher	%Same	%Lower	Net	Index
August	55	40	5	+ 50	78.7
July	63	35	2	+ 61	81.1
June	66	32	2	+ 64	82.4
May	64	35	1	+ 63	82.0

UP IN PRICE:

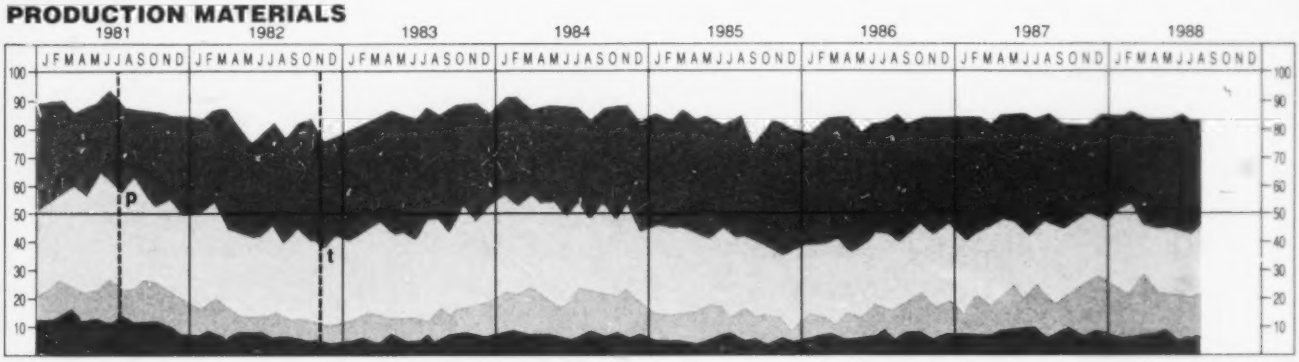
Corrugated shipping containers (28th time in 29 months), folding cartons, printing paper (17th time in 20 months), paper products (seventh consecutive month), caustic soda (21st consecutive month; used heavily in paper-making, petroleum refining and soap-making), soda ash, aluminum (19th consecutive month), steel (23rd time in 24 months), stainless steel (eighth consecutive month), steel products (10th consecutive month), zinc (seventh time in eight months; used heavily in metal alloys and as a protective coating for metals), castings, polyethylene (14th time in 15 months; used heavily in making packaging materials and paper coatings), polypropylene (third time in four months; used in making fabrics, carpets and yarns), plastic resins (14th time in 15 months), propylene glycol (second consecutive month; used heavily in making plastic resins, as a nontoxic antifreeze in foods, a solvent for pharaceuticals and a substitute for ethylene glycol), plastic products (15th time in 16 months), ethylene glycol (second consecutive month; used heavily in making antifreeze, brake fluid, plastic paint and ink), ethylene (12th time in 13 months; used heavily in making ethylene oxide and plastic resins), ethylene derivatives (sixth time in seven months), antifreeze (third consecutive month), miscellaneous chemicals (11th consecutive month), grain related foods, corn starch, sugar, sweetners (second consecutive month; used heavily in beverages and processed foods), vegatable oils (used heavily in processed foods), electric motors (second consecutive month) and bearings (second consecutive month).

DOWN IN PRICE:

Fuel Oil (eighth time in nine months), cotton fabric, black pepper and copper.

BUYING POLICY

PRODUCTION MATERIALS



Lead times lengthened somewhat for production materials, reflecting the continued slowing in vendor deliveries in August. Lead times of 30 days or less for production materials were reported by 51% of purchasers, down from 56% in July. Lead times for capital expenditures were little-changed with 55% of members reporting lead times of six months and longer, down only slightly from 56% last month. Lead times for maintenance, repair and operating (MRO) supplies shortened somewhat as the number reporting buying hand-to-mouth increased to 40% from 35% in July.

Percent Reporting

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer
August	16	35	27	16	6
July	16	40	23	15	6
June	14	41	22	18	5
May	15	41	22	14	8

Capital Expenditures	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer
August	12	5	12	16	55
July	8	5	13	18	56
June	10	7	10	24	49
May	9	6	11	19	55

MRO Supplies	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer
August	40	45	11	4	0
July	35	48	15	2	0
June	36	46	15	2	1
May	38	49	10	3	0

Commodity Report
August, 1988

Energy
Prepared by the NAPM Energy Committee. Chair: Howard T. Perley, C.P.M., International Paper Company, Memphis, TN.

Petroleum: Crude oil refineries are operating at approximately 88% of capacity, with a good balance of supply and demand, causing prices to remain stable.

Natural Gas: The projection is for a decrease in the recent surplus and a return to supply demand balance within a year or two, signalling the end of severely depressed prices.

Electric Power: The FERC is considering changes in regulations that would encourage utilities to use competitive bidding to allow independent power producers an opportunity to meet their extra power needs. If problems regarding access to the electricity transmission grid are resolved, this could result in lower electricity rates.

Coal:
Record low water conditions on the Mississippi River have resulted in extensive delays of incoming coal shipments, and in some cases increased costs. Although the impact on coal pricing will probably be temporary, loss of revenues by the barge companies could result in significant rate increases in the coming months.

New Technology:
The government is funding research on a superconducting magnetic energy storage system (SMES). The objective of the project is to develop a system capable of storing electricity at efficiencies greater than 90%, which is about 30% better than current technology.

Steel
Prepared by the NAPM Steel Buyers Group. Norris Caudell, Caterpillar, Inc.

Domestic steel production has slackened slightly to a rate of 1.8 million tons per week, an 86% capability utilization. For the year, we expect USA steel production of 90—93 million tons and shipments of 76–78 million tons. Imports will total 20 million tons while exports will reach 1.6 million tons, 40% above 1987. The projection for 1989 is for a slight slowdown from 1988, but not a recession. This, coupled with the ending of import quotas, should mean shorter leadtimes, moderation of price pressures and an easing of spot shortages for the steel buyer.

Since 1982, the U.S. steel industry has cut capacity by 40 million tons, reduced employment 60% and increased productivity 40%. Today, with costs 40% lower, the industry is capable of competing with foreign mills in the domestic market and even in overseas markets. Hats off to our steel industry for a job well done!

The *REPORT ON BUSINESS* is published monthly by the National Association of Purchasing Management, Inc., 2055 East Centennial Circle, Post Office Box 22160, Tempe, Arizona 85282-0960. Telephone: 602-752-NAPM (752-6276). Telecopier: 602-752-7890. NAPM is the largest purchasing education and research organization in the United States, with close to 30,000 members. The REPORT has been issued by the Association each month since 1931, except for a brief hiatus during World War II. It is distributed 12 times a year to NAPM members. Additional subscriptions are $50 a year for members, $100 for nonmembers. Add $25 outside the United States, Canada and Mexico.

The next issue of *REPORT ON BUSINESS* will be available October 3.

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National Association of Purchasing Management®

Report On Business®

October 3, 1988
Volume 6, Number 10

Economic Growth Slows Again

Index Dips to 54.8%

Export Orders Improve

Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

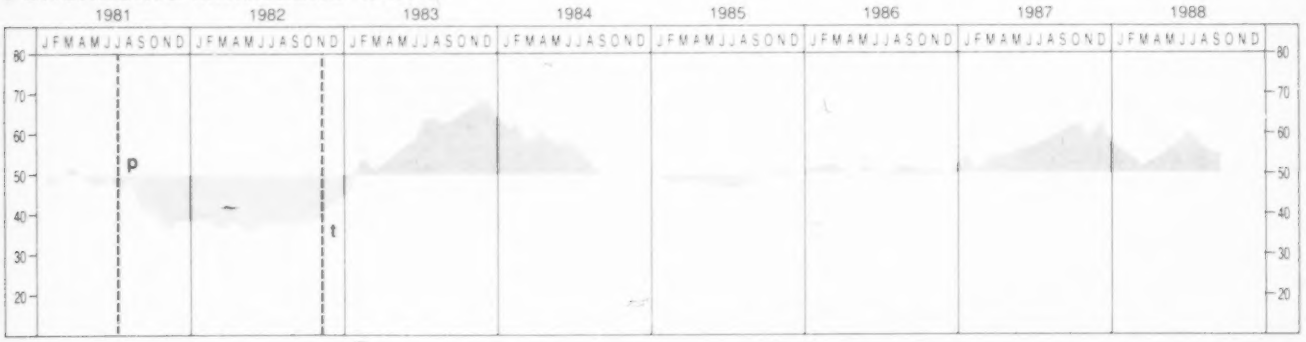
September Report

The economy continued to grow in September but at the slowest rate in six months, say the nation's purchasing executives in their latest ***Report on Business.***

Production continued to expand but a slower pace than in the previous five months. The rate of growth in **New Orders** dropped also, for the third consecutive month. New **Export Orders,** a key factor in recent economic growth, grew at a higher rate than in August, but considerably lower than in previous months. Of those members who export, 27% reported higher export orders, up from 20% in August but lower than the 37.8% average for the previous seven months. Lower export orders were reported by 6%, which is an increase from 4% in August. **Vendor Deliveries** continued slower but for the third consecutive month the rate of slowing lessened. **Employment** increased for the fourth consecutive month, but very little. **Inventories** declined in September for the second consecutive month. **Prices** increased for the 26th consecutive month but at the lowest rate of growth since May 1987. And, for only the second month in the last 30 months, corrugated shipping containers, historically an indicator of economic activity, was not reported higher priced.

The Report was issued by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee, and director of materials management at Pitney Bowes, Inc. Said Bretz, "Virtually all indicators confirm a decided slowing in the growth of the economy. Nonetheless, the high level of New Orders signals continued growth in October. Additionally, the improvement in the inflation rate suggests a healthy beginning for the fourth quarter."

PURCHASING MANAGERS' INDEX



Purchasing Managers' Index

January	57.4	June	59.3
February	54.9	July	59.0
March	53.3	August	56.2
April	54.9	September	54.8
May	55.1		

The ***Purchasing Managers' Index*** dipped to 54.8% in September from 56.2% in August, the third consecutive month to register a decline. Although the 54.8% is the lowest index since March (53.3%) it also marks the 26th consecutive month this leading indicator has exceeded 50%. A reading above 50 indicates that the economy is generally expanding; below 50, that the economy is generally declining. Bretz said, "The 54.8% reported in September brings the average for the first three quarters of 1988 to 56.1%. Past experience indicates that if this average were to continue for the fourth quarter, it would be consistent with real GNP growth of about 3.7%, unchanged from the past two months."

Data and method of presentation

The *Report on Business* is based on data compiled from monthly replies to questions asked of purchasing executives in over 250 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification (SIC) category, based on each industry's contribution to Gross National Product (GNP). Twenty-one industries in 50 states are represented on the committee.

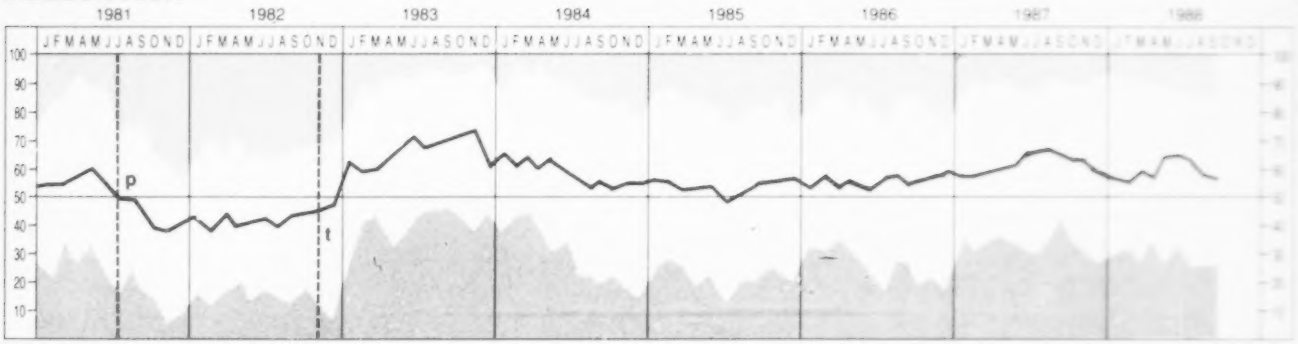
Survey responses reflect the change, if any, in the current month compared to the previous month. For each of the indicators measured (new orders, production, vendor deliveries, inventories, employment and prices), this report shows:

- the percent reporting each response
- the net difference between the number of responses in the positive economic direction (higher, better — and slower for vendor deliveries) and the negative economic direction (lower, worse — and faster for vendor deliveries)
- the diffusion index

The charts provide a basis for comparing current data with the historical pattern. The dotted vertical lines on each chart indicate for the period shown the official peak (**p** — July 1981) and trough (**t** — November 1982) of the economy as determined by the National Bureau of Economic Research. The percentage of responses in the positive economic direction are shown in blue, the negative in red, and the same in white. Responses are raw data and are never changed. The diffusion index includes the percent of positive responses, plus one-half of those responding the same (considered positive). The resulting single index number is then seasonally adjusted to allow for the effects of repetitive intra-year variations resulting primarily from normal differences in weather conditions, various institutional arrangements and differences attributable to non-moveable holidays. All seasonal adjustment factors are supplied by the U.S. Department of Commerce and are subject annually to minor changes when conditions warrant them. The Purchasing Managers' Index is a composite index based on the seasonally adjusted diffusion indexes for five of the indicators (new orders, production, vendor deliveries, inventories and employment) with varying weights applied.

Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. An index reading above 50% indicates that the economy is generally expanding; below 50% generally declining. The distance from 50% is indicative of the strength of the expansion or decline.

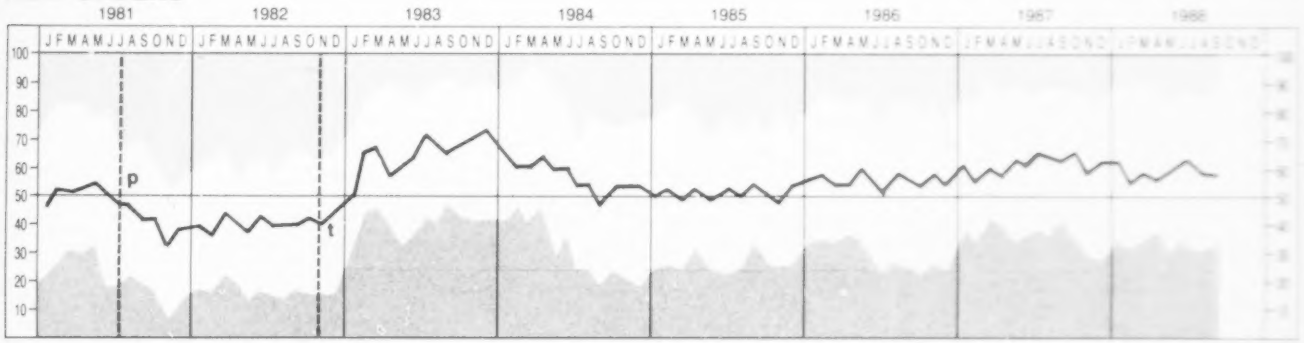
PRODUCTION



Production grew in September for the 26th consecutive month. Nevertheless, the rate of growth slowed for the third consecutive month and at 56.0%, the index is the lowest since March 1988 (54.4%).

Production	%Better	%Same	%Worse	Net	Index
September	26	62	12	+14	56.0
August	26	60	14	+12	56.2
July	25	62	13	+12	60.7
June	35	53	12	+23	63.1

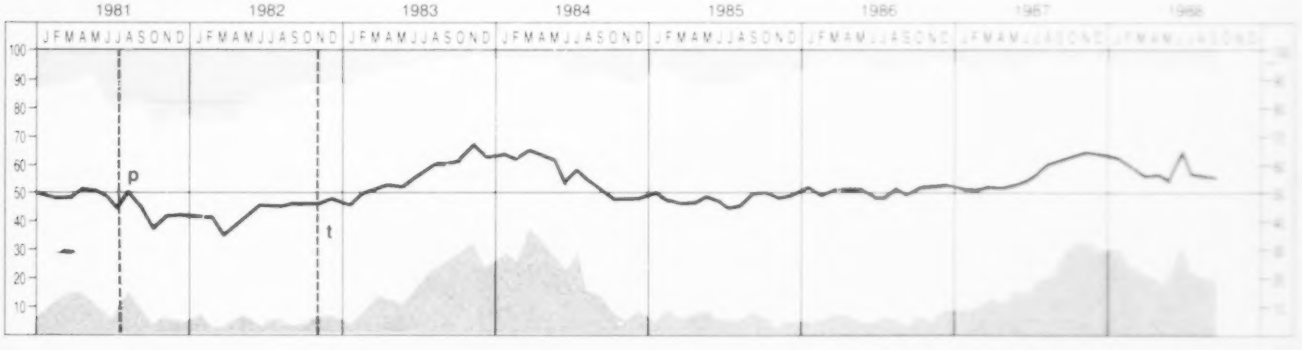
NEW ORDERS



New Orders expanded in September for the 40th consecutive month, after considering normal seasonal variations. Although the rate of growth slowed for the third consecutive month, it is at a high enough level to suggest continued growth in production in October.

New Orders	%Better	%Same	%Worse	Net	Index
September	34	55	11	+23	58.4
August	31	54	15	+16	59.9
July	31	57	12	+19	60.7
June	34	54	12	+22	62.7

VENDOR DELIVERIES



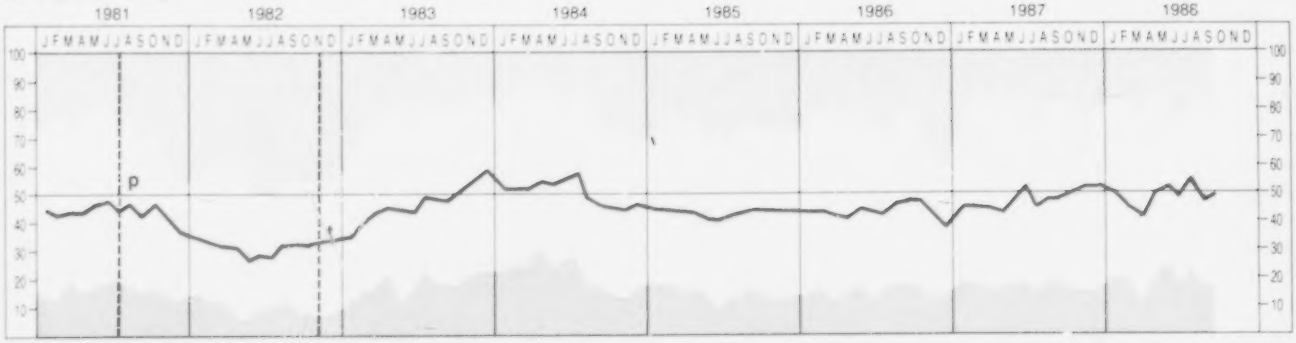
Vendor Deliveries were slower for the 24th consecutive month. Although slowing deliveries indicate a growing economy, the rate of slowing in deliveries has lessened for three consecutive months and at 55.0%, the September index is the lowest since May 1987 (53.5%).

Vendor Deliveries	%Slower	%Same	%Faster	Net	Index
September	19	73	8	+11	55.0
August	20	73	7	+13	56.1
July	21	75	4	+17	58.6
June	32	63	5	+27	63.5

IN SHORT SUPPLY:

— Aluminum (12th consecutive month), copper (1st time since May 1988), nickel (6th time in 7 months; used heavily in making stainless steel, plating metals and batteries), stainless steel (9th consecutive month), castings, bleached paperboard (3rd consecutive month), polyethylene (5th consecutive month; used heavily in making packaging materials and paper coatings), plastic resins (5th consecutive month), acrylic acid (2nd time in 3 months, used in manufacturing plastics), caustic soda, soda ash (16th consecutive month; used heavily in paper-making, petroleum refining and soap-making), ethylene (6th consecutive month; some easing in tightness reported; used heavily in making ethylene oxide, plastic resins and glycols), ethylene oxide (7th consecutive month), antifreeze (2nd consecutive month). NOTE: three major ethylene and ethylene-derivative plants previously closed because of fires, are now back in production. Phenol (6th consecutive month; used heavily in making phenolic resins), methyl ethyl ketone (MEK) (6th consecutive month; used heavily as a chemical solvent in surface coatings and in making resins), titanium dioxide (14th consecutive month; lead-free pigment used as a whitener in coatings, paints, paper and other industrial applications), bearings (2nd consecutive month), sugar.

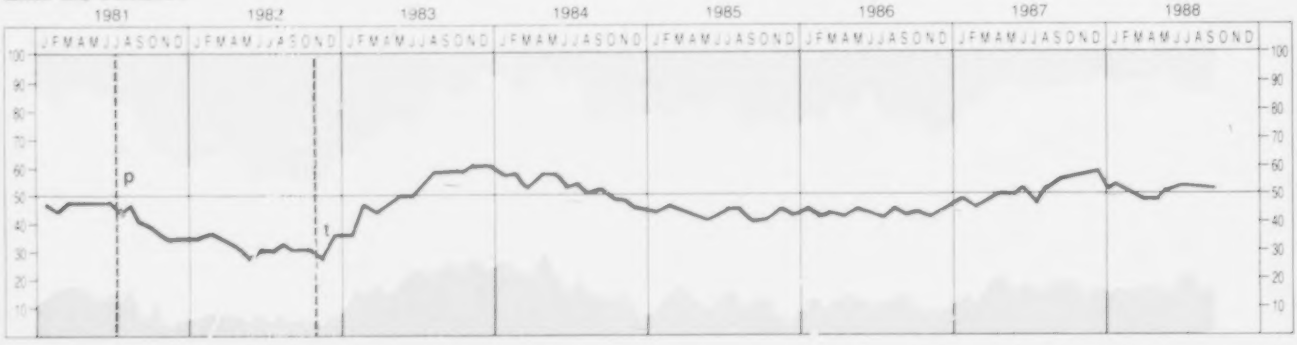
INVENTORIES



Inventories declined slightly in September, for the second consecutive month, after taking normal seasonal variations into consideration. Nevertheless, the index at 49.6% is sharply lower than in July (55.1%) and reflects the resolve of purchasers to balance slowing production with lower inventories.

Inventories	%Higher	%Same	%Lower	Net	Index
September	20	61	19	+ 1	49.6
August	18	64	18	0	48.6
July	22	60	18	+ 4	55.1
June	18	60	22	- 4	48.5

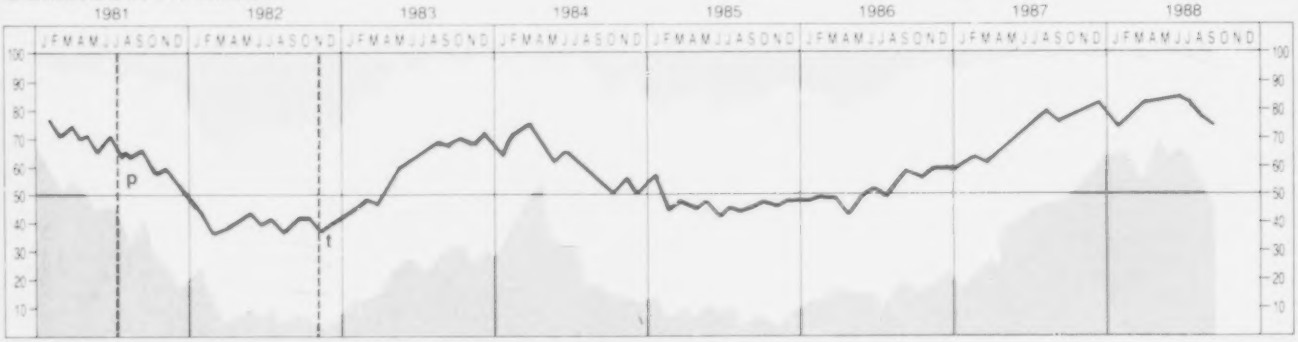
EMPLOYMENT



September marked the fourth consecutive month Employment has increased, after considering normal seasonal variations. However, at 50.2%, the index is the lowest since June (50.1%) and trending lower, mirroring the slower growth in Production.

Employment	%Higher	%Same	%Lower	Net	Index
September	14	70	16	- 2	50.2
August	16	68	16	0	50.7
July	19	69	12	+ 7	51.7
June	20	64	16	+ 4	50.1

COMMODITY PRICES



Although Prices increased in September for the 26th consecutive month, the rate of increase slowed significantly. The glimmer of hope noted in the August Report that the rate of price increases was declining is closer to reality. The index fell to 72.2% in September and is the lowest since May 1987 (67.8%), a welcome sign of abating inflation.

Prices	%Higher	%Same	%Lower	Net	Index
September	47	49	4	+ 43	72.2
August	55	40	5	+ 50	78.7
July	63	35	2	+ 61	81.1
June	66	32	2	+ 64	82.4

UP IN PRICE:

Aluminum (20th consecutive month; some reports of price decreases), aluminum products, copper (17th time in 19 months; some reports of price decreases), steel (24th time in 25 months), stainless steel (9th consecutive month), steel products (11th consecutive month), zinc (8th time in nine months; used heavily in metal alloys and as a protective coating for metals), castings (2nd consecutive month), paperboard (used heavily in consumer products packaging), printing paper (18th time in 21 months), paper products (8th consecutive month), polyethylene (15th time in 16 months; used heavily in making packaging materials and paper coatings), plastic resins (15th time in 16 months), plastic products (16th time in 17 months), fiber glass, caustic soda (22nd consecutive month; used heavily in paper-making, petroleum refining and soap-making), ethylene (13th time in 14 months; used heavily in making ethylene oxide and plastic resins), ethylene derivatives (7th time in 8 months), methanol (9th time in 10 months; used heavily as a solvent and in synthesizing other chemicals), sulfuric acid (used heavily in making fertilizers, dyes, adhesives and other acids), titanium dioxide (5th time in 6 months; a lead-free pigment used heavily as a whitener in coatings, paints, paper and other industrial applications), grain related foods (2nd consecutive month), corn starch (2nd consecutive month), rice, apples, vegetable oils (2nd consecutive month; used heavily in processed foods), bearings (3rd consecutive month), fuel oil (some reports of price decreases), natural gas, vinyl fabric.

DOWN IN PRICE:

Zinc (reported up in price in 7 of past 8 months; used heavily in metal alloys and as a protective coating for metals).

BUYING POLICY

Lead times for Capital Expenditures increased, with 60% of members reporting lead times in the significant 6 months and longer category. The 60% is up sharply from 55% in August and the most since September 1986 (also 60%). Lead times for Production Materials also lengthened somewhat. Purchasers reporting lead times of 90 days and longer reached 26% in September, up from 22% in August and the most since March (29%). Lead times for Maintenance, Repair and Operating (MRO) Supplies shortened slightly as the number of members reporting lead times of 90 days or more declined to 2%, down from 4% in August.

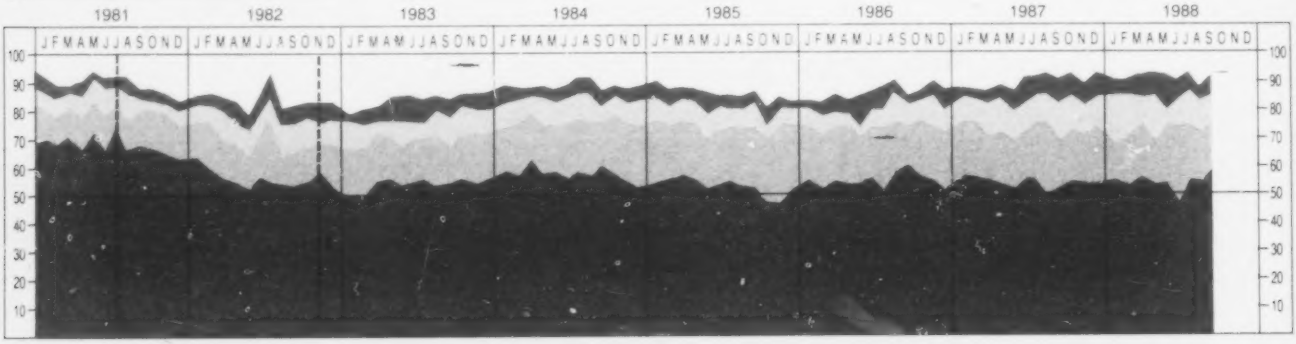
Percent Reporting

Capital Expenditures	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer
September	9	5	10	16	60
August	12	5	12	16	55
July	8	5	13	18	56
June	10	7	10	24	49

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer
September	16	34	24	20	6
August	16	35	27	16	6
July	16	40	23	15	6
June	14	41	22	18	5

MRO Supplies	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer
September	38	47	13	2	0
August	40	45	11	4	0
July	35	48	15	2	0
June	36	46	15	2	1

CAPITAL EXPENDITURES



Commodity Report
September, 1988

Nonferrous Metals
Prepared by the NAPM Nonferrous Metals Committee. Chair: Sharon Sinke, C.P.M., C.L. Frost, Inc., Grand Rapids, MI.

Nickel: The demand is still exceeding current supply; however it appears demand is decreasing, so price is dropping. The current price swing is from $6.10–$6.70/lb. Supply and demand for 1989 could be similar to 1988, with prices in the range of $5.00–$6.00/lb. With current inventories down and no new production in sight, even with imports from Russia, the global deficit of nickel is likely to continue.

Magnesium: The shipments of magnesium were up 10% in the first half of 1988 compared to the first half of 1987. Production was up 5% during the same period. Inventories continue their long downward trend from the high in September, 1986. The June 30th inventory of all primary producers was 28,500 MT, representing only a 1.4 month supply.

Aluminum: The aluminum industry continues to be in an excellent position as prices remain high, customer inventories remain low and production is running at peak capacity. Pricing has continued to increase in the second quarter but at a slower rate. Prices are expected to remain high but should begin to stabilize in the fourth quarter. Extrusion prices have been running behind ingot increases; the industry is trying to rectify this situation. Demand, both U.S. and worldwide, remains strong due primarily to consumption growth, since industry figures do not reflect inventory increases. The largest U.S. market is packaging, followed by construction, transportation, automotive, electrical and consumer durables. The largest product form used is sheet, followed by ingot (used as ingot in final form as for castings), and extrusions. Primary production is running at full capacity both in the U.S. and in world industry. The U.S. primary production for the first half of 1988 exceeded the same period of 1987 by 21% and continues to increase. World primary production is also expanding due to restarts of smelters that had labor problems in Spain and Canada, and a 10% annual increased demand in China. Exports remain firm and up from 1987, especially in aluminum scrap, with the bulk acquired by Japan and Taiwan.

Textiles
Prepared by the NAPM Textile Committee. Chair: Gerry Korver, C.P.M., K-Products, Inc., Orange City, IA.

Cotton, Polyester, Greige Goods: Business remains strong in most areas. Prices for cotton, however, have shown very little change in recent weeks. The hurricane activity in the Gulf of Mexico is contributing to a "wait and see" attitude on production estimates. Harvesting started in mid to late September. Severe crop damage will certainly have an impact on future pricing. Polyester has seen several increases in 1988 and there is a possibility of another in late year. A factor is the tight supply of ethylene. The outlook in early 1989 shows continued increases as the ethylene industry struggles to make up the capacity shortage. Also included is an intentional recovery of raw material price increases which suppliers feel is past due. Rayon has seen several increases in 1988. There appears to be no stopping point to date, with rumored increases into early 1989. This will be a difficult market to negotiate in the next few months.

Nylon and Specialty Fabrics: Throughout 1988 there has been a tremendous demand for spandex and nylon. This is due primarily to increased use of spandex in outerwear fashions, hosiery, intimate apparel and swim wear active wear. DuPont announced an increase of 12% for 840–2240 denier lycra spandex. It is suspected that a 9% increase in this denier range will be announced in January, 1989. A 5% lycra increase is expected at the same time for all other denier sizes. All denier nylons were increased $.02/lb. by DuPont and Monsanto on March 1, 1988. BASAF raised nylon prices an average of $.15/lb. on April 1. A $.10/lb. increase is expected on nylon in the first quarter of 1989.

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